THE JOURNAL OF
AIR LAW AND COMMERCE

Vol. 25 SUMMER, 1958 No. 3

MEMORANDUM ON THE "NATIONAL AERONAUTICS AND SPACE ACT OF 1958"

By John Cobb Cooper

Princeton, New Jersey; former Administrator American Bar Foundation; Professor Emeritus International Air Law, McGill University; former Director Institute International Air Law, McGill University.

ON July 29, 1958 the President approved the newly enacted "National Aeronautics and Space Act of 1958." It takes its place as the third major American statute dealing with the control of flight. The first of these was the "Air Commerce Act of 1926 (44 Stat. 568). The second was the "Civil Aeronautics Act of 1938" (52 Stat. 973).

A copy of the new "National Aeronautics and Space Act of 1958" is attached to this memorandum. Its passage resulted from a special message of President Eisenhower dated April 1, 1958, the first paragraph of which succinctly stated the problem:

> "Recent developments in long-range rockets for military purposes have for the first time provided man with new machinery so powerful that it can put satellites into orbit, and eventually provide the means for space exploration. The United States of America and the Union of Soviet Socialist Republics have already successfully placed in orbit a number of earth satellites. In fact, it is now within the means of any technologically advanced nation to embark upon practicable programs for exploring outer space. The early enactment of appropriate legislation will help assure that the United States takes full advantage of the knowledge of its scientists, the skill of its engineers and technicians, and the resourcefulness of its industry in meeting the challenges of the space age." (H. Doc. No. 365, 85th Cong., 2d sess.)

The act contains a most important "Declaration of Policy and Purpose." It also creates a new body to be entitled "National Aeronautics and Space Council" and establishes a new agency to be known as "National Aeronautics and Space Administration." Basic phases of the declaration of policy, and of the powers and duties of the Council and of the Administration, are linked to the definitions set out in Section 103 of the act as follows:

> Sec. 103. As used in this Act—
>
> (1) the term "aeronautical and space activities" means (A) research into, and the solution of, problems of flight within and outside the earth's atmosphere, (B) the development, construction,

testing, and operation for research purposes of aeronautical and space vehicles, and (C) such other activities as may be required for the exploration of space; and

(2) the term "aeronautical and space vehicles" means aircraft, missiles, satellites, and other space vehicles, manned and unmanned, together with related equipment, devices, components, and parts.

The term "aeronautics" and the term "aircraft" as used in the Civil Aeronautics Act are there defined as follows:

Section 1 (1) "aeronautics" means the science and art of flight.

(4) "aircraft" means any contrivance now known or hereafter invented, used, or designed for navigation of or flight in the air.

It must be assumed that these statutory definitions may also be considered applicable where the same or similar terms are used in the new act.

It should also be noted that the act does not seek to define either the term "space" or the term "atmosphere" although both are used. Nor does it either use or define the term "airspace."

The definitions in Section 103 of the act were discussed in the "Statement of the managers on the part of the House" incorporated in Report number 2166, House of Representatives, which was presented with the compromise version of the bill which has now become law. The entire act should be read in the light of the background of this authoritative statement:

"Section 103. Definitions.

"This section, which defines 'aeronautical and space activities' and 'aeronautical and space vehicles,' embodies the substance of both the House and Senate versions but does so in a way which will ensure that these expressions can be used throughout the act without further question as to their meaning, inclusions, or exclusions.

"The purpose is to make clear that the act is concerned primarily with research, development, and exploration. The use of the word 'activities' is intended to be broad in the area of outer space because no one can predict with certainty what future requirements may be.

"It is not the intention of Congress, however, to construe activities so broadly as to include such things as the operation of commercial airlines, the control of air traffic, the fixing of airworthiness standards, the setting of air fares, or the assigning of certificates of public convenience and necessity. Whether, in time, the new Administration will run a regular transport route to another planet or to the moon is not a matter of current concern. But the term 'activities' should be construed broadly enough to enable the Administration and the Department of Defense, in their respective fields, to carry on a wide spectrum of activities which relate to the successful use of outer space. These activities would include scientific discovery and research not directly related to travel in outer space but utilizing outer space, and the development of resources which may be discovered in outer space.

"Aeronautical and space activities combine two different categories of concepts but are understood by most persons more easily than some alternate labels. The counterpart of aeronautics is astronautics. Both relate to the design, construction and operation of

vehicles, the former within the atmosphere, and the latter primarily outside the atmosphere, although often passing through the atmosphere on the way to outer space. There is no sharp dividing line between aeronautical and astronautical vehicles.

"Space is a place, and can include the bottom of the sea or the center of the earth as well as the atmosphere and so-called empty outer space. In common usage, many think of space as lying beyond the atmosphere. In this Act, the term means both within and beyond the atmosphere of the earth. There is no sharp dividing line between the atmosphere and outer space, and this act does not attempt to define one.

"At a later time, it may be possible to find universal acceptance of many technical definitions relating to the subject matter of this act. Meanwhile the act has been couched in language which will obviate the most serious shortcomings of such lack of universal definitions today. It will give sufficient leeway to the new agencies being created without infringing upon certain aeronautical activities already being carried on which it is not the intention of the Congress under this act to disturb."

The important "Declaration of Policy and Purpose" in Section 102 of the Act must be read in connection with the foregoing authoritative and contemporary explanation. Subsection (a) declares that it is the policy of the United States "that activities in space should be devoted to peaceful purposes for the benefit of all mankind." Although the Managers on the part of the House have stated that in the act the term "space" means "both within and beyond the atmosphere of the earth," it is not believed that the new act was intended to have any effect on the prior long existing statutory declarations in the Air Commerce Act and the Civil Aeronautics Act that the United States has complete and exclusive sovereignty in the air space above it. In other words, the declaration in Section 102 (a) is not thought to create new privileges of flight for foreign aircraft or other instrumentalities within or through national airspace. On the other hand, this declaration may possibly indicate a step in the direction of a future national policy based on international free transit for peaceful purposes in areas beyond the atmosphere.

Subsection (b) provides, among other things, that aeronautical and space activities should be the responsibility of and directed by a civilian agency except that activities peculiar to the development of weapons systems, military operations, or the defense of the United States should be the responsibility of the Department of Defense, and that the determination as to which such agency has responsibility shall be made by the President.

Subsection (c) states certain objectives for the aeronautical and space activities of the United States. The substance of these objectives was included in the President's message mentioned above, except that the Congress added one very important objective stated as follows:

"(4) The establishment of long-range studies of the potential benefits to be gained from, the opportunities for, and the problems involved in the utilization of aeronautical and space activities for peaceful and scientific purposes."

It is suggested that this provision for the establishment of long-range studies is sufficiently broad to authorize, and perhaps require, research into political, legal and other problems not purely scientific which arise from aeronautical and space activities carried on for peaceful purposes. This view is supported by the definition previously quoted which states that such activities mean, among other things, research into, and the solution of, problems of flight within and outside the earth's atmosphere. It must be noted that such research is not limited either to pure or to applied science.

Section 201 creates an entirely new government body designated as "National Aeronautics and Space Council." It will consist of the President, who will preside, Secretary of State, Secretary of Defense, Administrator of the new National Aeronautics and Space Administration, Chairman of the Atomic Energy Commission, not more than one additional federal government representative, and not more than three members to be appointed from civil life. The sole function of this council is to advise the President with respect to the performance of the duties vested in him by subsection (e) of section 201. These duties are extremely broad. They include making a survey of all aeronautical and space activities, as well as policies, plans, programs and accomplishments of United States agencies; developing a comprehensive program; designating responsibility for the direction of major aeronautical and space activities; providing for effective cooperation between the new agency and the Department of Defense and specifying which activities may be carried on concurrently; and finally the broad duty of resolving differences arising among departments and agencies of the United States with respect to aeronautical and space activities. The Council is authorized to employ a staff to be headed by a civilian executive secretary.

The very broad terms of the President's new duty to resolve differences as stated in subsection (e) (5) should be particularly noted. This duty to resolve differences with respect to aeronautical and space activities is not limited to differences that may arise between the new Administration and the Department of Defense. It covers all such differences between government departments and agencies dealing with the activities covered by the Act. Its significance will be realized by an examination of the broad powers of "Development Planning" contained in section 312 of the Federal Aviation Act of 1958 which replaces the Air Commerce Act and the Civil Aeronautics Act. It creates a new "Federal Aviation Agency" to be headed by an Administrator, who is authorized, in section 312, to make long-range plans for and formulate policy with respect to the orderly development and use of the navigable airspace, and is empowered to undertake developmental work tending, among other things, to the creation of improved aircraft. Section 103 of the National Aeronautics and Space Act, as indicated earlier in this memorandum, covers the development, construction

and operation for research purposes of aeronautical and space vehicles, which, by the definition included in the same section, covers "aircraft" as well as "space vehicles." If any conflict should arise as to the duties and obligations of the Administrators under these two new statutes, the President, very fortunately, has the power and duty under section 201 (e) (5) of the National Aeronautics and Space Act, to resolve such differences insofar as they arise with respect to "aeronautical and space activities."

Section 202 provides for the establishment of the new "National Aeronautics and Space Administration" to be headed by an Administrator appointed by the President, and a Deputy Administrator.

Section 203 states the functions of the Administration. These are apparently limited under subsection (a) to the planning, directing and conducting of aeronautical and space activities; arranging for certain participation by the scientific community; and providing for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof. In practice, however, these functions may well develop very wide scope. The President, under section 201, is to develop a comprehensive program of aeronautical and space activities to be conducted by agencies of the United States, and designate the responsibility for the direction of such activities. Undoubtedly the new Administration is authorized and directed by the Act to conduct any such activities as may be included in the program fixed by the President as being part of its responsibility.

In addition, section 301 of the Act provides for the transfer to the new Administration of all the functions, powers, duties and obligations of the long established National Advisory Committee for Aeronautics. That agency now has statutory power to adopt rules and regulations, with the approval of the President, and under the same to supervise and direct the scientific study of the problems of flight with a view to their practical solution, and to determine the problems which should be experimentally attacked and to discuss their solution and their application to practical questions. In addition, the President, under section 302 of the Act, may transfer to the new Administration functions of other government departments of agencies which relate primarily to the functions, powers and duties of the new Administration as prescribed in the Act.

Broadly speaking, it may therefore be said that the Act envisions a system under which the President, with the advice of the new National Aeronautics and Space Council, will develop a program of aeronautical and space activities to be conducted by United States agencies, and that the new Administration will direct and conduct such of those activities as are assigned to it by the President. The President will, however, be obligated to take due note of the declaration of policy contained in section 103 (b), requiring that aeronautical and space activities shall be directed by a civilian agency, except those

peculiar to or primarily associated with the development of weapons systems and/or military operations of the defense of the United States, which shall be the responsibility of and directed by the Department of Defense.

Section 204 of the Act creates a Civilian Military Liaison Committee. Through this committee the new Administration and the Department of Defense shall advise and consult with each other on matters within their respective jurisdictions relating to aeronautical and space activities, and keep each other fully informed. Any matters on which they are unable to reach agreement will be referred to the President for decision.

Cooperation between the United States and other nations or groups of nations is provided by section 102 (c) (7) and section 205. The former provides that the aeronautical and space activities of the United States shall be conducted so as to contribute materially to one or more of various objectives including "cooperation by the United States with other nations and groups of nations in work done pursuant to this Act and in the peaceful application of the results thereof." The Administration, in section 205, is authorized, under the foreign policy guidance of the President, to "engage in a program of international cooperation in work done pursuant to this Act, and in the peaceful application of the results thereof, pursuant to agreements made by the President with the advice and consent of the Senate." Questions may well arise as to how and in what manner the last phrase of section 205 limits the authority of the President and the Administration. Specifically, the question may arise as to whether the Administration may engage in a program of international cooperation pursuant to an executive agreement made by the President with a foreign nation or group of nations which has not been reduced to treaty form and received the "advice and consent of the Senate."

This situation was apparently in the mind of President Eisenhower when he issued a statement on July 29, 1958, on signing the Act, saying in part: "The new Act contains one provision that requires comment. Section 205 authorizes cooperation with other nations and groups of nations in work done pursuant to the Act and in the peaceful application of the results of such work, pursuant to international agreements entered into by the President with the advice and consent of the Senate. I regard this section merely as recognizing that international treaties may be made in this field, and as not precluding, in appropriate cases, less formal arrangements for cooperation. To construe the section otherwise would raise substantial constitutional questions."

Other sections of the bill not specifically dealt with in this memorandum cover the following subjects: security, property rights in inventions, contributions awards and appropriations. These sections do not affect the major policy provisions of the Act.

Public Law 85-568
85th Congress, H. R. 12575
July 29, 1958

AN ACT

To provide for research into problems of flight within and outside the earth's atmosphere, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

TITLE I—SHORT TITLE, DECLARATION OF POLICY, AND DEFINITIONS

SHORT TITLE

SEC. 101. This Act may be cited as the "National Aeronautics and Space Act of 1958."

DECLARATION OF POLICY AND PURPOSE

SEC. 102. (a) The Congress hereby declares that it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind.

(b) The Congress declares that the general welfare and security of the United States requires that adequate provision be made for aeronautical and space activities. The Congress further declares that such activities shall be the responsibility of, and shall be directed by, a civilian agency exercising control over aeronautical and space activities sponsored by the United States, except that activities peculiar to or primarily associated with the development of weapons systems, military operations, or the defense of the United States (including the research and development necessary to make effective provision for the defense of the United States) shall be the responsibility of, and shall be directed by, the Department of Defense; and that determination as to which such agency has responsibility for and direction of any such activity shall be made by the President in conformity with section 201 (e).

(c) The aeronautical and space activities of the United States shall be conducted so as to contribute materially to one or more of the following objectives:

(1) The expansion of human knowledge of phenomena in the atmosphere and space;

(2) The improvement of the usefulness, performance, speed, safety, and efficiency of aeronautical and space vehicles;

(3) The development and operation of vehicles capable of carrying instruments, equipment, supplies, and living organisms through space;

(4) The establishment of long-range studies of the potential benefits to be gained from, the opportunities for, and the problems involved in the utilization of aeronautical and space activities for peaceful and scientific purposes;

(5) The preservation of the role of the United States as a leader in aeronautical and space science and technology and in the application thereof to the conduct of peaceful activities within and outside the atmosphere;

(6) The making available to agencies directly concerned with national defense of discoveries that have military value or significance, and the furnishing by such agencies, to the civilian agency established to direct and control nonmilitary aeronautical and space activities, of information as to discoveries which have value of significance to that agency;

(7) Cooperation by the United States with other nations and groups of nations in work done pursuant to this Act and in the peaceful application of the results thereof; and

(8) The most effective utilization of the scientific and engineering resources of the United States, with close cooperation among all interested agencies of the United States in order to avoid unnecessary duplication of effort, facilities, and equipment.

(d) It is the purpose of this Act to carry out and effectuate the policies declared in subsections (a), (b), and (c).

DEFINITIONS

SEC. 103. As used in this Act—

(1) the term "aeronautical and space activities" means (A) research into, and the solution of, problems of flight within and outside the earth's atmosphere, (B) the development, construction, testing, and operation for research purposes of aeronautical and space vehicles, and (C) such other activities as may be required for the exploration of space; and

(2) the term "aeronautical and space vehicles" means aircraft, missiles, satellites, and other space vehicles, manned and unmanned, together with related equipment, devices, components, and parts.

TITLE II—COORDINATION OF AERONAUTICAL AND SPACE ACTIVITIES

NATIONAL AERONAUTICS AND SPACE COUNCIL

SEC. 201. (a) There is hereby established the National Aeronautics and Space Council (hereinafter called the "Council") which shall be composed of—

(1) the President (who shall preside over meetings of the Council);

(2) the Secretary of State;

(3) the Secretary of Defense;

(4) the Administrator of the National Aeronautics and Space Administration;

(5) the Chairman of the Atomic Energy Commission;

(6) not more than one additional member appointed by the President from the departments and agencies of the Federal Government; and

(7) not more than three other members appointed by the President, solely on the basis of established records of distinguished achievement, from among individuals in private life who are eminent in science, engineering, technology, education, administration, or public affairs.

(b) Each member of the Council from a department or agency of the Federal Government may designate another officer of his department or agency to serve on the Council as his alternate in his unavoidable absence.

(c) Each member of the Council appointed or designated under paragraphs (6) and (7) of subsection (a), and each alternate member designated under subsection (b), shall be appointed or designated to serve as such by and with the advice and consent of the Senate, unless at the time of such appointment or designation he holds an office in the Federal Government to which he was appointed by and with the advice and consent of the Senate.

(d) It shall be the function of the Council to advise the President with respect to the performance of the duties prescribed in subsection (e) of this section.

(e) In conformity with the provisions of section 102 of this Act, it shall be the duty of the President to—

(1) survey all significant aeronautical and space activities, including the policies, plans, programs, and accomplishments of all agencies of the United States engaged in such activities;

(2) develop a comprehensive program of aeronautical and space activities to be conducted by agencies of the United States;

(3) designate and fix responsibility for the direction of major aeronautical and space activities;

(4) provide for effective cooperation between the National Aeronautics and Space Administration and the Department of Defense in all such activities, and specify which of such activities may be carried on concurrently by both such agencies notwithstanding the assignment of primary responsibility therefor to one or the other of such agencies; and

(5) resolve differences arising among departments and agencies of the United States with respect to aeronautical and space activities under this Act, including differences as to whether a particular project is an aeronautical and space activity.

(f) The Council may employ a staff to be headed by a civilian executive secretary, who shall be appointed by the President by and with the advice and consent of the Senate and shall receive compensation at the rate of $20,000 a year. The executive secretary, subject to the direction of the Council, is authorized to appoint and fix the compensation of such personnel, including not more than three persons who may be appointed without regard to the civil service laws or the Classification Act of 1949 and compensated at the rate of not more than $19,000 a year, as may be necessary to perform such duties as may be prescribed by the Council in connection with the performance of its functions. Each appointment under this subsection shall be subject to the same security requirements as those established for personnel of the National Aeronautics and Space Administration appointed under section 203 (b) (2) of this Act.

(g) Members of the Council appointed from private life under subsection (a) (7) may be compensated at a rate not to exceed $100 per diem, and may be paid travel expenses and per diem in lieu of subsistence in accordance with the provisions of section 5 of the Administrative Expenses Act of 1946 (5 U. S. C. 73b-2) relating to persons serving without compensation.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

SEC. 202. (a) There is hereby established the National Aeronautics and Space Administration (hereinafter called the "Administration"). The Administration shall be headed by an Administrator, who shall be appointed from civilian life by the President by and with the advice and consent of the Senate, and shall receive compensation at the rate of $22,500 per annum. Under the supervision and direction of the President, the Administrator shall be responsible for the exercise of all powers and the discharge of all duties of the Administration, and shall have authority and control over all personnel and activities thereof.

(b) There shall be in the Administration a Deputy Administrator, who shall be appointed from civilian life by the President by and with the advice and consent of the Senate, shall receive compensation at the rate of $21,500 per annum, and shall perform such duties and exercise such powers as the Administrator may prescribe. The Deputy Administrator shall act for, and exercise the powers of, the Administrator during his absence or disability.

(c) The Administrator and the Deputy Administrator shall not engage in any other business, vocation, or employment while serving as such.

FUNCTIONS OF THE ADMINISTRATION

SEC. 203. (a) The Administration, in order to carry out the purpose of this Act, shall—

(1) plan, direct, and conduct aeronautical and space activities;

(2) arrange for participation by the scientific community in planning scientific measurements and observations to be made through use of aeronautical and space vehicles, and conduct or arrange for the conduct of such measurements and observations; and

(3) provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof.

(b) In the performance of its functions the Administration is authorized—

(1) to make, promulgate, issue, rescind, and amend rules and regulations governing the manner of its operations and the exercise of the powers vested in it by law;

(2) to appoint and fix the compensation of such officers and employees as may be necessary to carry out such functions. Such officers and employees shall be appointed in accordance with the civil-service laws and their compensation fixed in accordance with the Classification Act of 1949, except that (A) to the extent the Administrator deems such action necessary to the discharge of his responsibilities, he may appoint and fix the compensation (up to a limit of $19,000 a year, or up to a limit of $21,000 a year for a maximum of ten positions) of not more than two hundred and sixty of the scientific, engineering, and administrative personnel of the Administration without regard to such laws, and (B) to the extent the Administrator deems such action necessary to recruit specially qualified scientific and engineering talent, he may establish the entrance grade for scientific and engineering personnel without previous service in the Federal Government at a level up to two grades higher than the grade provided for such personnel under the General Schedule established by the Classification Act of 1949, and fix their compensation accordingly;

(3) to acquire (by purchase, lease, condemnation, or otherwise), construct, improve, repair, operate, and maintain laboratories, research and testing sites and facilities, aeronautical and space vehicles, quarters and related accommodations for employees and dependents of employees of the Administration, and such other real and personal property (including patents), or any interest therein, as the Administration deems necessary within and outside the continental United States; to lease to others such real and personal property; to sell and otherwise dispose of real and personal property (including patents and rights thereunder) in accordance with the provisions of the Federal Property and Administration Services Act of 1949, as amended (40 U. S. C. 471 et seq.); and to provide by contract or otherwise for cafeterias and other necessary facilities for the welfare of employees of the Administration at its installations and purchase and maintain equipment therefor;

(4) to accept unconditional gifts or donations of services, money, or property, real, personal, or mixed, tangible or intangible;

(5) without regard to section 3648 of the Revised Statutes, as amended (31 U. S. C. 529), to enter into and perform such contracts, leases, cooperative agreements, or other transactions as may be necessary in the conduct of its work and on such terms as it may deem appropriate, with any agency or instrumentality of the United States, or with any State, Territory, or possession, or with any political subdivision thereof, or with any person, firm, association, corporation, or educational institution. To the maximum extent practicable and consistent with the accomplishment of the purpose of this Act, such contracts, leases, agreements, and other transactions shall be allocated by the Administrator in a manner which will enable small-business concerns to participate equitably and proportionately in the conduct of the work of the Administration;

(6) to use, with their consent, the services, equipment, personnel, and facilities of Federal and other agencies with or without reimbursement, and on a similar basis to cooperate with other public and private

agencies and instrumentalities in the use of services, equipment, and facilities. Each department and agency of the Federal Government shall cooperate fully with the Administration in making its services, equipment, personnel, and facilities available to the Administration, and any such department or agency is authorized, notwithstanding any other provision of law, to transfer to or to receive from the Administration, without reimbursement, earonautical and space vehicles, and supplies and equipment other than administrative supplies or equipment;

(7) to appoint such advisory committees as may be appropriate for purposes of consultation and advice to the Administration in the performance of its functions;

(8) to establish within the Administration such offices and procedures as may be appropriate to provide for the greatest possible coordination of its activities under this Act with related scientific and other activities being carried on by other public and private agencies and organizations;

(9) to obtain services as authorized by section 15 of the Act of August 2, 1946 (5 U. S. C. 55a), at rates not to exceed $100 per diem for individuals;

(10) when determined by the Administrator to be necessary, and subject to such security investigations as he may determine to be appropriate, to employ aliens without regard to statutory provisions prohibiting payment of compensation to aliens;

(11) to employ retired commissioned officers of the armed forces of the United States and compensate them at the rate established for the positions occupied by them within the Administration, subject only to the limitations in pay set forth in section 212 of the Act of June 30, 1932, as amended (5 U. S. C. 59a);

(12) with the approval of the President, to enter into cooperative agreements under which members of the Army, Navy, Air Force, and Marine Corps may be detailed by the appropriate Secretary for services in the performance of functions under this Act to the same extent as that to which they might be lawfully assigned in the Department of Defense; and

(13) (A) to consider, ascertain, adjust, determine, settle, and pay, on behalf of the United States, in full satisfaction thereof, any claim for $5,000 or less against the United States for bodily injury, death, or damage to or loss of real or personal property resulting from the conduct of the Administration's functions as specified in subsection (a) of this section, where such claim is presented to the Administration in writing within two years after the accident or incident out of which the claim arises; and

(B) if the Administration considers that a claim in excess of $5,000 is meritorious and would otherwise be covered by this paragraph, to report the facts and circumstances thereof to the Congress for its consideration.

CIVILIAN-MILITARY LIAISON COMMITTEE

SEC. 204. (a) There shall be a Civilian-Military Liaison Committee consisting of—

(1) a Chairman, who shall be the head thereof and who shall be appointed by the President, shall serve at the pleasure of the President, and shall receive compensation (in the manner provided in subsection (d)) at the rate of $20,000 per annum;

(2) one or more representatives from the Department of Defense, and one or more representatives from each of the Departments of the Army, Navy, and Air Force, to be assigned by the Secretary of Defense to serve on the Committee without additional compensation; and

(3) representatives from the Administration, to be assigned by the Administrator to serve on the Committee without additional compensation, equal in number to the number of representatives assigned to serve on the Committee under paragraph (2).

(b) The Administration and the Department of Defense, through the Liaison Committee, shall advise and consult with each other on all matters within their respective jurisdictions relating to aeronautical and space activities and shall keep each other fully and currently informed with respect to such activities.

(c) If the Secretary of Defense concludes that any request, action, proposed action, or failure to act on the part of the Administrator is adverse to the responsibilities of the Department of Defense, or the Administrator concludes that any request, action, proposed action, or failure to act on the part of the Department of Defense is adverse to the responsibilities of the Administration, and the Administrator and the Secretary of Defense are unable to reach an agreement with respect thereto, either the Administrator or the Secretary of Defense may refer the matter to the President for his decision (which shall be final) as provided in section 201 (e).

(d) Notwithstanding the provisions of any other law, any active or retired officer of the Army, Navy, or Air Force may serve as Chairman of the Liaison Committee without prejudice to his active or retired status as such officer. The compensation received by any such officer for his service as Chairman of the Liaison Committee shall be equal to the amount (if any) by which the compensation fixed by subsection (a) (1) for such Chairman exceeds his pay and allowances (including special and incentive pays) as an active officer, or his retired pay.

INTERNATIONAL COOPERATION

SEC. 205. The Administration, under the foreign policy guidance of the President, may engage in a program of international cooperation in work done pursuant to this Act, and in the peaceful application of the results thereof, pursuant to agreements made by the President with the advice and consent of the Senate.

REPORTS TO THE CONGRESS

SEC. 206. (a) The Administration shall submit to the President for transmittal to the Congress, semiannually and at such other times as it deems desirable, a report of its activities and accomplishments.

(b) The President shall transmit to the Congress in January of each year a report, which shall include (1) a comprehensive description of the programed activities and the accomplishments of all agencies of the United States in the field of aeronautics and space activities during the preceding calendar year, and (2) an evaluation of such activities and accomplishments in terms of the attainment of, or the failure to attain, the objectives described in section 102 (c) of this Act.

(c) Any report made under this section shall contain such recommendations for additional legislation as the Administrator or the President may consider necessary or desirable for the attainment of the objectives described in section 102 (c) of this Act.

(d) No information which has been classified for reasons of national security shall be included in any report made under this section, unless such information has been declassified by, or pursuant to authorization given by, the President.

TITLE III—MISCELLANEOUS

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS

SEC. 301. (a) The National Advisory Committee for Aeronautics, on the effective date of this section, shall cease to exist. On such date all functions, powers, duties, and obligations, and all real and personal property, personnel (other than members of the Committee), funds, and records of that organization, shall be transferred to the Administration.

(b) Section 2302 of title 10 of the United States Code is amended by striking out "or the Executive Secretary of the National Advisory Committee for Aeronautics." and inserting in lieu thereof "or the Administrator of the National Aeronautics and Space Administration."; and section 2303 of such title 10 is amended by striking out "The National Advisory Committee for Aeronautics." and inserting in lieu thereof "The National Aeronautics and Space Administration."

(c) The first section of the Act of August 26, 1950 (5 U. S. C. 22-1), is amended by striking out "the Director, National Advisory Committee for Aeronautics" and inserting in lieu thereof "the Administrator of the National Aeronautics and Space Administration," and by striking out "or National Advisory Committee for Aeronautics" and inserting in lieu thereof "or National Aeronautics and Space Administration."

(d) The Unitary Wind Tunnel Plan Act of 1949 (50 U. S. C. 511-515) is amended (1) by striking out "The National Advisory Committee for Aeronautics (hereinafter referred to as the 'Committee')" and inserting in lieu thereof "The Administrator of the National Aeronautics and Space Administration (hereinafter referred to as the 'Administrator')"; (2) by striking out "Committee" or "Committee's" wherever they appear and inserting in lieu thereof "Administrator" and Administrator's," respectively; and (3) by striking out "its" wherever it appears and inserting in lieu thereof "his."

(e) This section shall take effect ninety days after the date of the enactment of this Act, or on any earlier date on which the Administrator shall determine, and announce by proclamation published in the Federal Register, that the Administration has been organized and is prepared to discharge the duties and exercise the powers conferred upon it by this Act.

TRANSFER OF RELATED FUNCTIONS

SEC. 302. (a) Subject to the provisions of this section, the President, for a period of four years after the date of enactment of this Act, may transfer to the Administration any functions (including powers, duties, activities, facilities, and parts of functions) of any other department or agency of the United States, or of any officer or organizational entity thereof, which relate primarily to the functions, powers, and duties of the Administration as prescribed by section 203 of this Act. In connection with any such transfer, the President may, under this section or other applicable authority, provide for appropriate transfers of records, property, civilian personnel, and funds.

(b) Whenever any such transfer is made before January 1, 1959, the President shall transmit to the Speaker of the House of Representatives and the President pro tempore of the Senate a full and complete report concerning the nature and effect of such transfer.

(c) After December 31, 1958, no transfer shall be made under this section until (1) a full and complete report concerning the nature and effect of such proposed transfer has been transmitted by the President to the Congress, and (2) the first period of sixty calendar days of regular session of the Congress following the date of receipt of such report by the Congress has expired without the adoption by the Congress of a concurrent resolution stating that the Congress does not favor such transfer.

ACCESS TO INFORMATION

SEC. 303. Information obtained or developed by the Administrator in the performance of his functions under this Act shall be made available for public inspection, except (A) information authorized or required by Federal statute to be withheld, and (B) information classified to protect the national security: *Provided,* That nothing in this Act shall authorize the withholding of information by the Administrator from the duly authorized committees of the Congress.

SECURITY

SEC. 304. (a) The Administrator shall establish such security requirements, restrictions, and safeguards as he deems necessary in the interest of the national security. The Administrator may arrange with the Civil Service Commission for the conduct of such security or other personnel investigations of the Administration's officers, employees, and consultants, and its contractors and subcontractors and their officers and employees, actual or prospective, as he deems appropriate; and if any such investigation develops any data reflecting that the individual who is the subject thereof is of questionable loyalty the matter shall be referred to the Federal Bureau of Investigation for the conduct of a full field investigation, the results of which shall be furnished to the Administrator.

(b) The Atomic Energy Commission may authorize any of its employees, or employees of any contractor, prospective contractor, licensee, or prospective licensee of the Atomic Energy Commission or any other person authorized to have access to Restricted Data by the Atomic Energy Commission under subsection 145 b. of the Atomic Energy Act of 1954 (42 U. S. C. 2165 (b)), to permit any member, officer, or employee of the Council, or the Administrator, or any officer, employee, member of an advisory committee, contractor, subcontractor, or officer or employee of a contractor or subcontractor of the Administration, to have access to Restricted Data relating to aeronautical and space activities which is required in the performance of his duties and so certified by the Council or the Administrator, as the case may be, but only if (1) the Council or Administrator or designee thereof has determined, in accordance with the established personnel security procedures and standards of the Council or Administration, that permitting such individual to have access to such Restricted Data will not endanger the common defense and security, and (2) the Council or Administrator or designee thereof finds that the established personnel and other security procedures and standards of the Council or Administration are adequate and in reasonable conformity to the standards established by the Atomic Energy Commission under section 145 of the Atomic Energy Act of 1954 (42 U. S. C. 2165). Any individual granted access to such Restricted Data pursuant to this subsection may exchange such Data with any individual who (A) is an officer or employee of the Department of Defense, or any department or agency thereof, or a member of the armed forces, or a contractor or subcontractor of any such department, agency, or armed force, or an officer or employee of any such contractor or subcontractor, and (B) has been authorized to have access to Restricted Data under the provisions of section 143 of the Atomic Energy Act of 1954 (42 U. S. C. 2163).

(c) Chapter 37 of title 18 of the United States Code (entitled Espionage and Censorship) is amended by—

(1) adding at the end thereof the following new section:

"§ 799. Violation of regulations of National Aeronautics and Space Administration

"Whoever willfully shall violate, attempt to violate, or conspire to violate any regulation or order promulgated by the Administrator of the National Aeronautics and Space Administration for the protection or security of any laboratory, station, base or other facility, or part thereof, or any aircraft,

missile, spacecraft, or similar vehicle, or part thereof, or other property or equipment in the custody of the Administration, or any real or personal property or equipment in the custody of any contractor under any contract with the Administration or any subcontractor of any such contractor, shall be fined not more than $5,000, or imprisoned not more than one year, or both."

(2) adding at the end of the sectional analysis thereof the following new item:

"799. Violation of regulations of National Aeronautics and Space Administration."

(d) Section 1114 of title 18 of the United States Code is amended by inserting immediately before "while engaged in the performance of his official duties" the following: "or any officer or employee of the National Aeronautics and Space Administration directed to guard and protect property of the United States under the administration and control of the National Aeronautics and Space Administration,".

(e) The Administrator may direct such of the officers and employees of the Administration as he deems necessary in the public interest to carry firearms while in the conduct of their official duties. The Administrator may also authorize such of those employees of the contractors and subcontractors of the Administration engaged in the protection of property owned by the United States and located at facilities owned by or contracted to the United States as he deems necessary in the public interest, to carry firearms while in the conduct of their official duties.

PROPERTY RIGHTS IN INVENTIONS

SEC. 305. (a) Whenever any invention is made in the performance of any work under any contract of the Administration, and the Administrator determines that—

(1) the person who made the invention was employed or assigned to perform research, development, or exploration work and the invention is related to the work he was employed or assigned to perform, or that it was within the scope of his employment duties, whether or not it was made during working hours, or with a contribution by the Government of the use of Government facilities, equipment, materials, allocated funds, information proprietary to the Government, or services of Government employees during working hours; or

(2) the person who made the invention was not employed or assigned to perform research, development, or exploration work, but the invention is nevertheless related to the contract, or to the work or duties he was employed or assigned to perform, and was made during working hours, or with a contribution from the Government of the sort referred to in clause (1),

such invention shall be the exclusive property of the United States, and if such invention is patentable a patent therefor shall be issued to the United States upon application made by the Administrator, unless the Administrator waives all or any part of the rights of the United States to such invention in conformity with the provisions of subsection (f) of this section.

(b) Each contract entered into by the Administrator with any party for the performance of any work shall contain effective provisions under which such party shall furnish promptly to the Administrator a written report containing full and complete technical information concerning any invention, discovery, improvement, or innovation which may be made in the performance of any such work.

(c) No patent may be issued to any applicant other than the Administrator for any invention which appears to the Commissioner of Patents to have significant utility in the conduct of aeronautical and space activities

unless the applicant files with the Commissioner, with the application or within thirty days after request therefor by the Commissioner, a written statement executed under oath setting forth the full facts concerning the circumstances under which such invention was made and stating the relationship (if any) of such invention to the performance of any work under any contract of the Administration. Copies of each such statement and the application to which it relates shall be transmitted forthwith by the Commissioner to the Administrator.

(d) Upon any application as to which any such statement has been transmitted to the Administrator, the Commissioner may, if the invention is patentable, issue a patent to the applicant unless the Administrator, within ninety days after receipt of such application and statement, requests that such patent be issued to him on behalf of the United States. If, within such time, the Administrator files such a request with the Commissioner, the Commissioner shall transmit notice thereof to the applicant, and shall issue such patent to the Administrator unless the applicant within thirty days after receipt of such notice requests a hearing before a Board of Patent Interferences on the question whether the Administrator is entitled under this section to receive such patent. The Board may hear and determine, in accordance with rules and procedures established for interference cases, the question so presented, and its determination shall be subject to appeal by the applicant or by the Administrator to the Court of Customs and Patent Appeals in accordance with procedures governing appeals from decisions of the Board of Patent Interferences in other proceedings.

(e) Whenever any patent has been issued to any applicant in conformity with subsection (d), and the Administrator thereafter has reason to believe that the statement filed by the applicant in connection therewith contained any false representation of any material fact, the Administrator within five years after the date of issuance of such patent may file with the Commissioner a request for the transfer to the Administrator of title to such patent on the records of the Commissioner. Notice of any such request shall be transmitted by the Commissioner to the owner of record of such patent, and title to such patent shall be so transferred to the Administrator unless within thirty days after receipt of such notice such owner of record requests a hearing before a Board of Patent Interferences on the question whether any such false representation was contained in such statement. Such question shall be heard and determined, and determination thereof shall be subject to review, in the manner prescribed by subsection (d) for questions arising thereunder. No request made by the Administrator under this subsection for the transfer of title to any patent, and no prosecution for the violation of any criminal statute, shall be barred by any failure of the Administrator to make a request under subsection (d) for the issuance of such patent to him, or by any notice previously given by the Administrator stating that he had no objection to the issuance of such patent to the applicant therefor.

(f) Under such regulations in conformity with this subsection as the Administrator shall prescribe, he may waive all or any part of the rights of the United States under this section with respect to any invention or class of inventions made or which may be made by any person or class of persons in the performance of any work required by any contract of the Administration if the Administrator determines that the interests of the United States will be served thereby. Any such waiver may be made upon such terms and under such conditions as the Administrator shall determine to be required for the protection of the interests of the United States. Each such waiver made with respect to any invention shall be subject to the reservation by the Administrator of an irrevocable, nonexclusive, nontransferrable, royalty-free license for the practice of such invention throughout the world by or on

behalf of the United States or any foreign government pursuant to any treaty or agreement with the United States. Each proposal for any waiver under this subsection shall be referred to an Inventions and Contributions Board which shall be established by the Administrator within the Administration. Such Board shall accord to each interested party an opportunity for hearing, and shall transmit to the Administrator its findings of fact with respect to such proposal and its recommendations for action to be taken with respect thereto.

(g) The Administrator shall determine, and promulgate regulations specifying, the terms and conditions upon which licenses will be granted by the Administration for the practice by any person (other than an agency of the United States) of any invention for which the Administrator holds a patent on behalf of the United States.

(h) The Administrator is authorized to take all suitable and necessary steps to protect any invention or discovery to which he has title, and to require that contractors or persons who retain title to inventions or discoveries under this section protect the inventions or discoveries to which the Administration has or may acquire a license of use.

(i) The Administration shall be considered a defense agency of the United States for the purpose of chapter 17 of title 35 of the United States Code.

(j) As used in this section—

(1) the term "person" means any individual, partnership, corporation, association, institution, or other entity;

(2) the term "contract" means any actual or proposed contract, agreement, understanding, or other arrangement, and includes any assignment, substitution of parties, or subcontract executed or entered into thereunder; and

(3) the term "made," when used in relation to any invention, means the conception or first actual reduction to practice of such invention.

CONTRIBUTIONS AWARDS

SEC. 306. (a) Subject to the provisions of this section, the Administrator is authorized, upon his own initiative or upon application of any person, to make a monetary award, in such amount and upon such terms as he shall determine to be warranted, to any person (as defined by section 305) for any scientific or technical contribution to the Administration which is determined by the Administrator to have significant value in the conduct of aeronautical and space activities. Each application made for any such award shall be referred to the Inventions and Contributions Board established under section 305 of this Act. Such Board shall accord to each such applicant an opportunity for hearing upon such application, and shall transmit to the Administrator its recommendation as to the terms of the award, if any, to be made to such applicant for such contribution. In determining the terms and conditions of any award the Administrator shall take into account—

(1) the value of the contribution to the United States;

(2) the aggregate amount of any sums which have been expended by the applicant for the development of such contribution;

(3) the amount of any compensation (other than salary received for services rendered as an officer or employee of the Government) previously received by the applicant for or on account of the use of such contribution by the United States; and

(4) such other factors as the Administrator shall determine to be material.

(b) If more than one applicant under subsection (a) claims an interest in the same contribution, the Administrator shall ascertain and determine the respective interests of such applicants, and shall apportion any award to be made with respect to such contribution among such applicants in such proportions as he shall determine to be equitable. No award may be made under subsection (a) with respect to any contribution—

(1) unless the applicant surrenders, by such means as the Administrator shall determine to be effective, all claims which such applicant may have to receive any compensation (other than the award made under this section) for the use of such contribution or any element thereof at any time by or on behalf of the United States, or by or on behalf of any foreign government pursuant to any treaty or agreement with the United States, within the United States or at any other place;

(2) in any amount exceeding $100,000, unless the Administrator has transmitted to the appropriate committees of the Congress a full and complete report concerning the amount and terms of, and the basis for, such proposed award, and thirty calendar days of regular session of the Congress have expired after receipt of such report by such committees.

APPROPRIATIONS

SEC. 307. (a) There are hereby authorized to be appropriated such sums as may be necessary to carry out this Act, except that nothing in this Act shall authorize the appropriation of any amount for (1) the acquisition or condemnation of any real property, or (2) any other item of a capital nature (such as plant or facility acquisition, construction, or expansion) which exceeds $250,000. Sums appropriated pursuant to this subsection for the construction of facilities, or for research and development activities, shall remain available until expended.

(b) Any funds appropriated for the construction of facilities may be used for emergency repairs of existing facilities when such existing facilities are made inoperative by major breakdown, accident, or other circumstances and such repairs are deemed by the Administrator to be of greater urgency than the construction of new facilities.

THE SOVIET ROLE IN INTERNATIONAL CIVIL AVIATION*

By Hans Heymann, Jr.
Senior Research Staff Member, The Rand Corporation

UNTIL quite recently, Western travelers who had occasion to use the services of the Soviet civil airline *Aeroflot* were notably unimpressed by if not downright scornful of the operational procedures and levels of technology displayed by the Russians in this field. At its best, the Soviet air-transport system seemed austere and undistinguished; at its worst, it looked like an ambitious kind of national barnstorming operation rather than a modern airline. It was evidently a low-priority Soviet activity that had been allowed to languish too long in technical isolation and economic neglect, and that had been left virtually untouched by the vast development of global air communication that had taken place in the Western world.

In the last 2 or 3 years, however, the Soviet leaders suddenly appear to have discovered the usefulness of civil aviation as an instrument of foreign policy, both in the political and in the economic sphere. The airplane has begun to figure more and more importantly in the Soviet foreign economic offensive, as a symbol of the new Soviet modernism in technology and benevolence in diplomacy. As a result of a fairly modest but exceedingly well-directed effort over the last few years, Soviet aviation has managed very effectively to obscure the fact of its over-all backwardness, and to convey to the outside world a most impressive image of itself as a serious and powerful contender in the international air-transport field. Though still essentially representing the DC-3 age of aviation, the Soviet Union can now lay claim to being the only country in the world that operates jet-transport services on domestic and international routes, and to flying, at least in prototype, the world's largest airliner. Though still confining its operations largely within the Communist Bloc, *Aeroflot* is now taken seriously when it talks ambitiously of extending its services to the four corners of the earth.

The "New Look" in Soviet aviation is being received in the West with a mixture of fascination and concern. The international aviation press has begun to follow closely the burgeoning activities of *Aeroflot* and to regard Soviet air transportation respectfully as "a force to be reckoned with." The British Minister of Supply, in a recent speech, found it necessary to warn Western aircraft manufacturers that Soviet competition in the export sale of aircraft soon may be "a very serious matter indeed." Western embassies in the Middle East and Southeast

* A research report published here with the permission of The RAND Corporation, an independent non-profit organization devoted to scientific research in the interest of the national security and welfare of the United States.

Asia are expressing alarm at the prospect of Soviet aviation "penetration" into the under-developed countries, with its much-vaunted opportunities for espionage, subversion, and assorted political mischief; and the view is widely held that the Russians are now embarked on a vast program of global air-transport expansion that is designed to undermine our own aviation leadership.

How warranted are these fears and how realistic these predictions? Is the Soviet Union in fact able to challenge the West in the air-transport field and does it intend to do so? Or are there perhaps broader political ambitions and objectives that explain the new Soviet interest in civil aviation? This report attempts to answer these questions. Specifically, it examines the problem from two points of view: (1) From the point of view of aviation equipment, what do the recent development trends in the USSR tell us about the Soviet ability to compete technologically or economically in this field? And (2) from the point of view of international air routes, how serious are their ambitions, and how promising their opportunities, for developing a global air-transport network?

SOVIET EQUIPMENT

It may be helpful to divide the development of civil aircraft in the Soviet Union into three distinct stages. These stages will be described briefly and will be illustrated with tables comparing present and future Soviet civil aircraft with equipment now in use or on order in the West.

STAGE 1

The first stage might be called "Lingering Obsolescence," because it characterizes the severe handicap under which Soviet civil aviation still operates today. Because of long neglect, the Soviet Union finds itself still very much in the DC-3 era of aviation, suffering from obsolete aircraft, primitive airfields, and grossly inefficient operating techniques.

This obsolescence becomes immediately apparent when we look at the types of piston aircraft that today constitute the backbone of the Soviet passenger-transport inventory, as shown in the first part of Table I. The LI-2, which is in fact the DC-3 manufactured by the

TABLE I
LINGERING OBSOLESCENCE

A. EVOLUTION

Year into Service	Soviet Aircraft	Nearest Western Counterpart
	Twin-engine Piston Aircraft	
1940	LI-2 (*Lisunov*)	Douglas DC-3
1947	IL-12 (*Ilyushin*)	Martin 202/404
1954	IL-14	Convair 240/340
1957	IL-14M	

B. PERFORMANCE

Specifications	Soviet Aircraft	Nearest Western Counterpart
	IL-14/14M	*Convair 340/440*
Date into service	1954/1957	1952/1956
Gross weight, lb.	36,300/38,000	47,000/49,100
Number of seats	18/26	44/52
Best cruise speed, kn	165	247
Maximum payload range, n mi	1560	1000/2000
Price quoted (excluding spares)	$280,000	$750,000

Russians under license from Douglas, and the IL-12 and 14, both obsolescent and highly uneconomical to operate, constitute together about 85 per cent of the passenger-carrying capacity of *Aeroflot*. Interestingly enough, the IL-14, in slightly modified forms, is now in production in substantial numbers in Czechoslovakia (*Aero*-14) and in East Germany (*ILGA*-14).

In the second part of Table I, the performance of the IL-14 is compared with that of our own Convair. The differences are striking, indeed:

> The IL-14 has an exceedingly low ratio of payload to gross weight; that is, it takes 2000 to 3000 pounds of aircraft to carry a single passenger. The Convair weighs only 1000 pounds per passenger carried. Lack of weight control, leading to costly inefficiency, has been a chronic defect in all Soviet civil aircraft now in regular service.
>
> The Convair has about a 50 per cent higher cruising speed than the IL-14, which means that the work capacity of the Soviet airplane is much inferior on that account also.

Small wonder that when the Russians offered this airplane for sale to India in 1956, the Indian government, after taking a good look at the operating economics, felt that it had to turn the deal down, in spite of the attractive price quoted by the Russians.

So much for Stage 1, the lingering obsolescence with which Soviet aviation is still burdened.

Stage 2

Stage 2 might be called "Hasty Transition." Note from Table II that the Russians have simply skipped the entire generation of four-engine piston airplanes that have played such an enormously important role in our own air-transport development over the last 15 years.

In an effort to overtake the West, and perhaps even surpass us, the Russians took a long and somewhat incongruous leap directly into the jet age, in the shape of the by now famous TU-104.

How successful was this hasty transition? Well, the TU-104 has won half a dozen world records; the Soviet Union can claim the distinction of being the only country in the world that operates jet transports in

TABLE II
HASTY TRANSITION

A. EVOLUTION

Year into Service	Soviet Aircraft	Nearest Western Counterpart
	Four-engine Piston Aircraft	
1946-1956	NONE	DC-4, DC-6, DC-7 series Lockheed *Constellations* Boeing *Stratocrusiers*
	Twin-engine Jet Aircraft	
1956 1957	TU-104 TU-104A	*Caravelle* (Sud Aviation)

B. PERFORMANCE

Specifications	Soviet Aircraft	Nearest Western Counterpart
	TU-104/104A	*Caravelle*
Date into service	1956/1957	1958
Gross weight, lb.	150,000	94,800
Number of seats	50/70	64/80
Powerplant thrust	(2) turbojets, 19,000 lb.	(2) turbojets, 10,500 lb.
Best cruise speed, kn	460	425
Maximum payload range, n mi	1400/1700	1400/1650
Price quoted (excluding spares)	$1,190,000	$1,950,000

regular service; and, most important, the Soviet leadership has been able to chalk up some impressive propaganda victories.

But in terms of any sensible standards of air-transport economics, the TU-104 simply does not qualify as a commercial transport. It is merely a clever improvisation, a hasty adaptation of a medium bomber to civil purposes. In converting his TU-16 bomber into a transport, Tupolev conveniently retained the bomber wing, the tail assembly, the engines and the landing gear and simply redesigned the fuselage to carry passengers rather than bombs. We could have done precisely the same thing 5 years earlier to our Boeing B-47, and it would have made just as little economic sense.

By way of illustration, the performance of the TU-104 is compared with that of its closest Western counterpart, the French *Caravelle.* Again we find that the Soviet airplane is very heavy relative to its payload and range capabilities. It is more than 50 per cent heavier than the *Caravelle* but carries a smaller payload over roughly the same distances. Its sole advantage is speed, and this is certainly worth something; but it is achieved through the use of phenomenally large engines with voracious appetites for fuel. Scandinavian Airlines, mostly out of curiosity, sent a team of engineers to Moscow to look over the airplane. They came back convinved that even if the Russians gave the TU-104's away for free, a commercial airline could not afford to operate them.

So far, this appraisal of Soviet equipment has been harshly negative: the aircraft now in operation in the USSR will simply not stand up to a rigorous commercial comparison with their counterparts in the West.

Stage 3

An appropriate name for Stage 3 might be "Impending Competition." The new Soviet prototypes that are to go into service in the near future (see Table III) present a very different picture. In fact, it seems that they constitute an entirely new generation of technically and economically attractive Soviet aircraft.

In the first place, out of the four new Soviet models, three are powered by turboprops, a form of powerplant on which the Russians have worked very hard while the United States has been sitting on its hands. From what we know about Soviet turboprop developments, we have every reason to expect some highly reliable and efficient powerplants in these airplanes.

Moreover, these airplanes can no longer be called hasty adaptations of military models to civil use. The *Ukraina,* for example, seems to be an intelligent compromise between a military transport and a passenger aircraft, while the *Moskva* is obviously newly designed as a purely civil airliner from the ground up.

Table III
IMPENDING COMPETITION

A. EVOLUTION

Year into Service	Soviet Aircraft	Nearest Western Counterpart
	Four-engine Jet Aircraft	
1958	TU-110	*Comet* 4 (de Havilland)
	Four-engine Turboprop Aircraft	
1958	AN10 (*Ukraina*)	Lockheed *Electra*
1958	IL-18 (*Moskva*)	Vickers *Vanguard*
1959	TU-114 (*Rossiia*)	Bristol *Britannia/Orion* Douglas DC-10/DC-7D

B. PERFORMANCE

Specifications	Soviet Aircraft	Nearest Western Counterpart
	AN-10 Ukraina	*Lockheed Electra*
Date into service	1958	1958
Gross weight, lb.	112,000	113,000
Maximum payload, lb.	29,000	21,000
Number of seats	84/126	66/91
Best cruise speed, kn	325	353
Maximum payload range n mi	1900	2400

For the first time, also, the Russians have made a systematic effort to reduce weight, discarding the old 1898 Pullman parlor-car furnish-

ings and the cast-iron toilets that up to now have been standard equipment on Soviet airplanes, and relying extensively on foam rubber, light-weight metals, and plastics.

Even more surprising is the attention paid to the more subtle ways of lowering the operating costs and improving the commercial attractiveness of the new models — such things as efficient ground-handling and servicing provisions, fuselage layout, accessibility of cargo hatches and baggage compartments — all of the hundreds of little design techniques that are so important to the achievement of rapid turnarounds and that add up to customer appeal. It is impressive that these techniques, up to now the exclusive hallmark of Western manufacturers, have been learned by the Russians so quickly and so well.

The potential competitiveness of the new Soviet models is well typified by the performance comparison shown between the *Ukraina* and the Lockheed *Electra*. The payload-gross-weight ratio has now shifted drastically in favor of the Soviet model, and the Russians seem to be embracing the concept of high-density seating for the first time. The large payload capacity of the *Ukraina* was, of course, achieved to some extent at the expense of range; the range of the *Ukraina* is substantially less than that of the *Electra*. But this seems to be a deliberate Soviet policy, and it may give us an interesting clue to Soviet aviation intentions.

To illustrate this point, the Soviet and Western developments are listed in Table IV in four range categories, from ultralong haul down to ultrashort haul. With a single exception, the Soviet aircraft fall into the medium-short-haul and very-short-haul class. On the other hand, the most important Western developments, particularly those of the United States, lie almost entirely in the long-haul field.

For the West, the explanation is obvious: The routes that have always been of greatest interest to the West as money-makers are long-haul nonstop routes such as the North Atlantic run and the new transpolar routes. Western operators are constantly under competitive pressure to provide a maximum of nonstop service. Thus we have tended in our aircraft designs to stretch range capabilities to the utmost, at considerable cost to ourselves in added structural weight, long-runway requirements, and so forth.

The fact that the Russians have not followed suit suggests that they are guided in their aircraft design not by any desire to capture a share of the lucrative international air traffic, but rather by the more modest range demands of their own domestic-route structure, and perhaps also by the requirements of international air communication *within* their own Eurasian continent — including particularly the Middle East, Western Asia, and the Far East.

TABLE IV
SOVIET VERSUS WESTERN DEVELOPMENTS:
CURRENT PROCUREMENT CYCLE

Range Category	Engine Type	USSR	United States	Other Western Developments
Ultralong haul (4000 to 8000 mi)	Piston	.....	DC-7 series (now) Super-*Constellation* series (now)	.....
	Turboprop	TU-114 *Rossiia* (1959)	DC-10/DC-7D (1960?)	Bristol *Britannia/Orion* (1960?)
	Turbojet	.....	Boeing 707-420 (1960) DC-8/*Intercontiental* (1960)	Handley Page *Victor* (1961)
Medium-long haul (2500 to 4000 mi)	Piston	.....	DC-6 series (now) *Constellation* series (now)	.....
	Turboprop	.....	.....	Bristol *Britannia/Proteus* (1957) Vickers *Vanguard* (1959)
	Turbojet	.....	Boeing 707-120/320 (1959) DC-8 *Domestic* (1960) Convair 880 (1960) Convair 600 (1961)	Vickers VC-10 (1963)
Medium-short haul (1500 to 2500 mi)	Piston	IL-14 (now)	Convair 440 (now)	.....
	Turboprop	AN-10 *Ukraina* (end-1958) IL-18 *Moskva* (end-1958)	Lockheed *Electra* (1958)	Vickers *Viscount* (now) Fokker *Friendship* F-27 (1959) Canadair 540 (1959)
	Turbojet	TU-104/104A (now) TU-110 (mid-1958)	DC-9 Boeing 720	*Caravelle* (1958) *Comet* 4 (1958); *Comet* 4A (1959)
Ultrashort haul (200 to 1500 mi)	Turboprop	AN-8 *Flying Whale* (1958?) AN-14 *Little Bee* (utility aircraft—1958) Antonov proposal for LI-2 (DC-3) replacement	Douglas *Model 1940* (1962?) Frye *Safari F-2* (1959?)	Short PD-16 (proposal)

In this connection, it is worth noting that the Russians have made a special effort to design their new models to operate from very short runways and rough landing strips. They did this no doubt with their own primitive airfields in mind, but at the same time they were not unaware of the special appeal that this design feature would have in the under-developed world.

But with all the good economic sense that seems to have gone into the new aircraft, it should not be assumed that the Russians have abandoned their quest for a quick psychological impact.

The TU-114 – the *Rossiia* – is ideally suited for exploitation as a fine example of the *sputnik* approach to aviation. This aircraft is a passenger conversion of the huge Soviet Bear bomber. It has four of the largest turboprop engines in the world, with eight contrarotating propellers, a cruising speed of over 400 knots, and a range that is more than adequate for a nonstop flight to New York. The deluxe 120-passenger version features a 48-seat restaurant, replete with tables and dumb-waiters, a telephone system, private sleeping cabins, and the kind of seat-spacing that spells the ultimate in luxury, comfort, and magnificence. Such an airplane cannot, of course, win any medals for its operating economy, but for the moment *Aeroflot* may consider it more important to dazzle the passenger than to sell the commercial operator on the attractions of this vehicle.

This is not to say that the TU-114 is an unattractive airplane. On the contrary, a tourist-class version, carrying 220 passengers in a high-density seating arrangement, is now planned by *Aeroflot,* and such an airplane might well show lower seat-mile costs over medium and long ranges than anything the West is likely to put into the air in the next few years. But for the present, *Aeroflot* needs prestige, and in this quest luxury may count for more than economy.

This leads to the second part of the discussion, namely the development of Soviet international air routes.

DEVELOPMENT OF SOVIET AIR ROUTES

In the field of air transport there is no parallel to the maritime concept of the "open seas" and freedom of entry into any port. On the contrary, the extravagant ideas of national air sovereignty that prevail have meant that the right to fly aircraft commercially from one country to another must be specifically negotiated between governments. This has given rise in the West to a complex system of bilateral air-transport agreements that vary widely in their degree of restrictiveness.

On the whole, the United States has been at the liberal extreme of the spectrum; we are a party to a multitude of agreements and conventions aimed at greater freedom of air commerce, and we are also a leading member of the international organizations (International Civil Aviation Organization and International Air Transport Association) that provide technical and operational supervision of international aviation. The USSR, on the other hand, has occupied an extreme position at the other end of the spectrum; she has abstained completely

from air commerce outside her own borders and has resisted all urging to join the international aviation community.

Until very recently the Soviet postwar aviation history was one of isolation, negativism, and neglect. The explosive development of global air transport in the Western world left the USSR almost completely untouched. As long as Stalin was alive not a single foreign commercial flight was permitted to enter the Soviet airspace, not even flights operated by Russia's own Satellites.

Soviet policy, however, began to change drastically toward the end of 1954 and has been evolving ever since. What has been the effect so far?

Figure 1 (page 274) shows the results of the new policy toward the Satellites. Previously the Russians had no air agreements with any of their own Bloc states; now all of them have been given the legal right to fly reciprocal services into Soviet territory, at least for a short distance. The Chinese and the North Korean airlines now link up with *Aeroflot* at the Asian border towns of Alma Ata, Irkutsk, and Chita. All the Eastern European countries are permitted to fly into Moscow, although only three have so far exercised this right, the Czech, Polish, and East German airlines. In addition, the USSR has openly encouraged the more or less independent development of the Satellite airlines and is supporting their ambitions to develop international routes of their own, particularly through the supply of new aircraft, including the TU-104.

A similar change has occurred in Soviet policy toward the major Western flying nations outside Russia's own orbit. But before examining the effect of this policy change, let us consider the geographic attractions of Soviet airspace for the West.

Figure 2 (page 275) shows important savings in distance that could be realized if the Soviet Bloc would really open up its airspace. Most important, perhaps, would be the link between Western Europe and Japan. A direct trans-Soviet link would cut in half the existing route going the long way around, and would greatly improve upon the new SAS orient-polar route via Alaska. Another route, one that appeals especially to the British, is that between London and Hong Kong, providing a potential link with Oceania. One other possibility is a route between the West Coast of the United States and India, which could cut thousands of miles off the present routes.

On the basis of distance alone, these routes certainly seem impressive, but it is well to remember that geography is only a small part of the problem. There is a real question, for example, of how much traffic would actually flow over such long-distance express routes. How much *intermediate traffic* could be developed on these routes? The Soviet Bloc itself is certainly not a promising market for future international passenger travel.

There is also the question as to whether the Soviet Bloc would be willing to cooperate internationally in the development of *controlled*

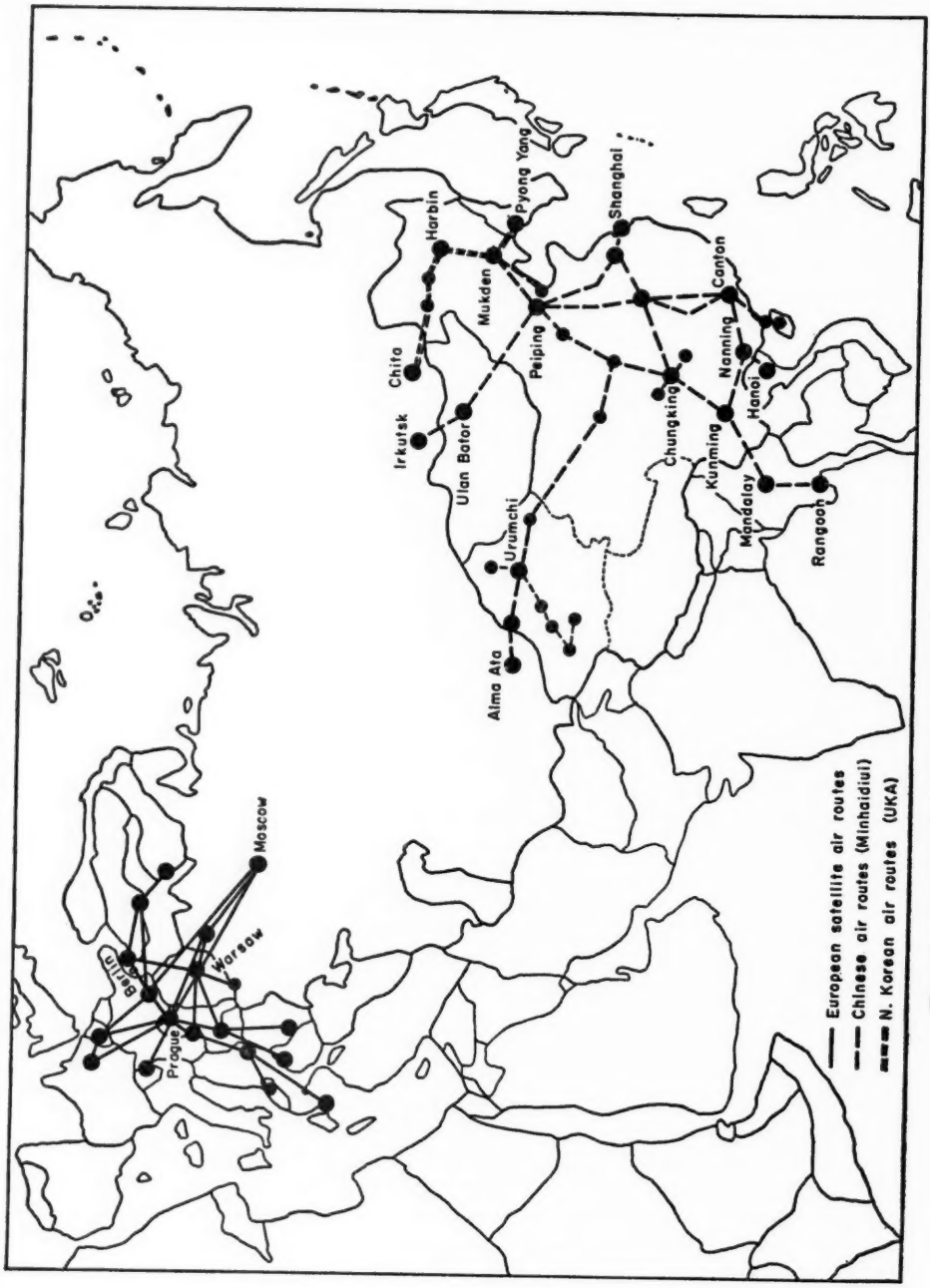

Fig. I — Soviet Bloc nations' air routes into USSR

Fig. 1 — Soviet Bloc nations' air routes into USSR

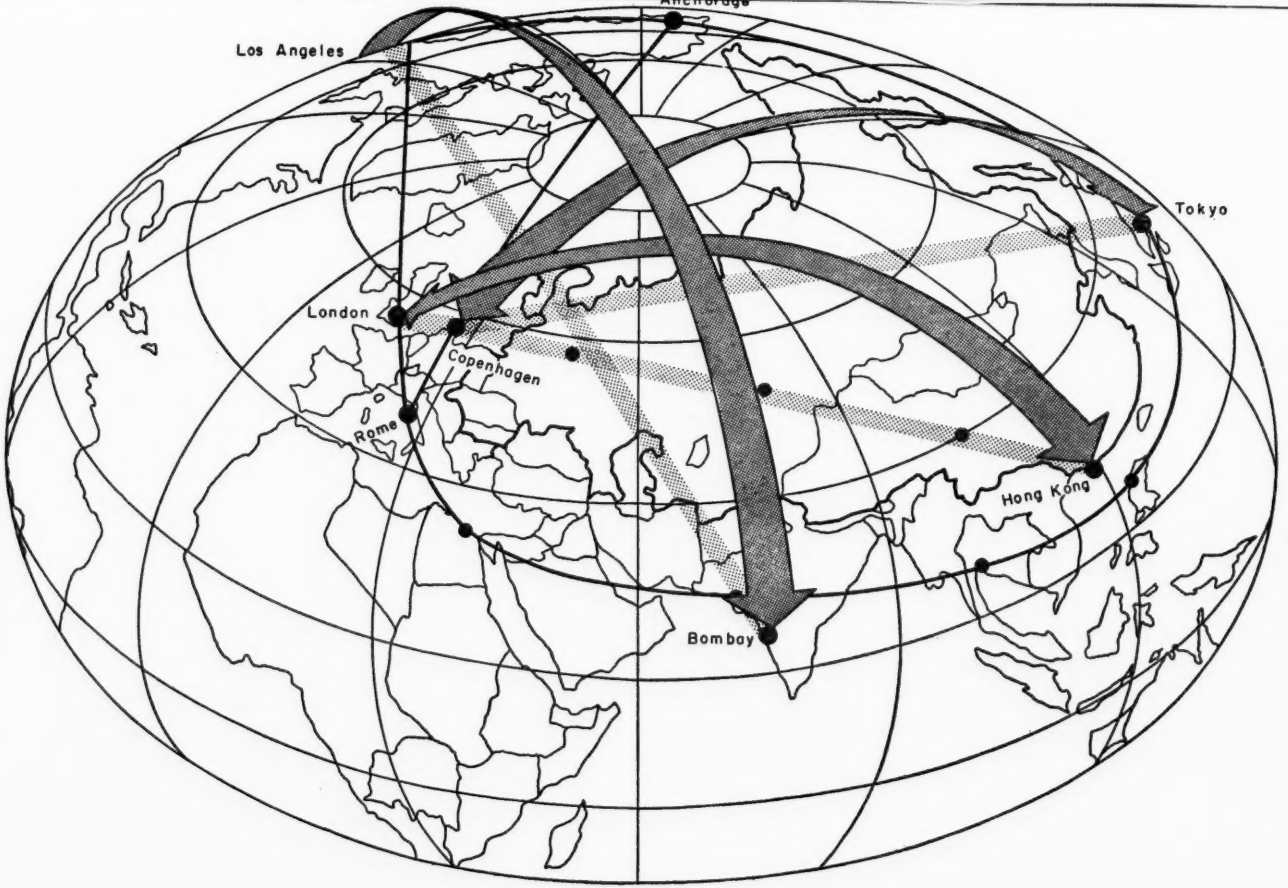

Fig. 2—Attractions of Soviet airspace

airways. A great deal of intimate technical cooperation is required for this, but so far the Russians have been both unwilling and unable to provide even the minimum technical services needed.

In other words, the enthusiasm of Western airlines for a trans-Soviet route *should* be very much dampened by these considerations, but it isn't. For reasons of competitive rivalry and national prestige, Western airlines have been vying with each other for the chance at traffic rights into the Soviet orbit, and the Russians have taken full advantage of this by playing off one against the other.

Figure 3 (page 277) pictures existing and proposed air routes into and around the Soviet Union. The thinner lines represent the present network of Western trunk routes skirting the Soviet Bloc—a kind of "capitalist air encirclement." The heavy solid lines represent actual Western routes now being flown into the USSR. Only a few Western airlines have so far succeeded in implementing a reciprocal air agreement with the Russians: SAS, which now links the Scandinavian capitals with Moscow; the Finnish airline which operates a service between Helsinki and Moscow; KLM, linking Amsterdam to Moscow; Sabena, operating between Brussels and Moscow; and Air France, Paris to Moscow. In each case *Aeroflot* reciprocates by flying a parallel service into each of these capitals. In addition, the USSR has recently concluded air agreements with the United Kingdom and with India, which will soon permit similar reciprocal flights to be flown by BOAC between London and Moscow and by Air India International between New Delhi and Moscow. In every instance these flights terminate in Moscow.

Most Western airlines, however, are interested not so much in flying just into Moscow as a terminus, but in obtaining traffic rights to Moscow *and beyond,* to link up with the important global air routes. Thus, for example, the West European airlines (SAS, BOAC, Air France) would like to fly beyond Moscow to Tokyo; and Japan Airlines would like to fly beyond Moscow to Europe.

The Russians, on the other hand, are determined to keep foreign "penetration" to a minimum, and seem to be trying, wherever possible, to hold foreign airlines to "gateway points" near their borders rather than to permit them to cross any major portion of Soviet territory.

The only exception to this rule was made for, of all countries, Afghanistan. The Soviet-Afghanistan air agreement gives *Aeroflot* the right to fly into Kabul and beyond, in exchange for the Afghan airline's right to fly into Moscow and beyond. The only catch is that the agreement specifies that only native pilots and crews may be used on these flights, and since Afghanistan has neither suitable aircraft nor native crews, the Russians do not have much competition to fear from this direction.

The reason for this restrictiveness toward foreign airlines is that the Soviets have ambitions for their own. This becomes quickly apparent when we look at *Aeroflot's* route structure and its possible international

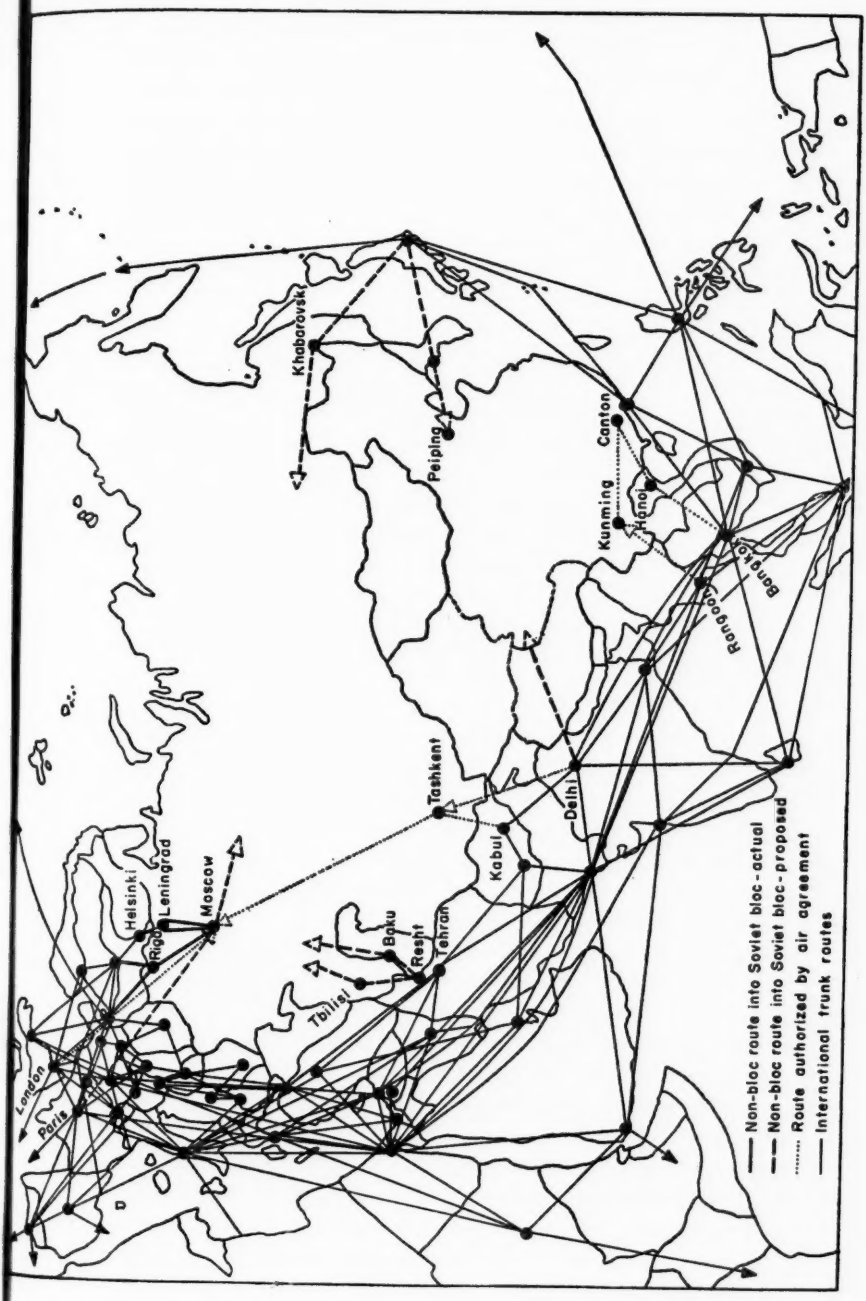

Fig. 3 — Trunk air routes and the Soviet bloc

extension. Figure 4 shows only the trunk routes with international significance, and their proposed and hoped for future extensions. The heavy lines represent all the TU-104 jet prestige routes that *Aeroflot* now flies. It may be noted that they are oriented as much toward the Middle East and Asia as they are toward Western Europe. Of course, by far the most important route so far is that linking Prague with Peiping. Thanks to an interline agreement between Air France and *Aeroflot*, and thanks to the speed of the TU-104, it is now possible to leave Paris on a Thursday afternoon, transact your business in Peiping on Friday, get in a good night's sleep, and be back in Paris in time for dinner Saturday night. Flying time, 16½ hours each way; the fare, $200 less than by any alternative route.

The brightest gleam in the Soviet eye at the moment, of course, is to extend this route to Tokyo and thereby complete the valuable link between Western Europe and Japan. But how to do this *unilaterally*, without having to give up any major part of this politically valuable monopoly? This turns out to be quite a dilemma:

One possibility for the Russians is to ask the Japanese to permit *Aeroflot* to extend its route from Khabarovsk to Tokyo, in exchange for a Japanese flight from Tokyo to Khabarovsk. Khrushchev has, in fact, already made such an offer, and the Japanese promptly turned it down. They, of course, want traffic rights at least to Moscow; in other words, a fair exchange of capital for capital. But for the Russians this would mean a rival on a route they want very much to keep for themselves.

Alternatively, the USSR might ask China to approach the Japanese with an offer of exchanging air services between Peiping and Tokyo. This the Japanese might accept, but then it would not be the Soviet flag but the Chinese flag that would reap the glory of completing this valuable link between Europe and Asia, and this might not be to Russia's liking. For the moment, at least, there seems to be no satisfactory solution for the Russians on this route.

Another major Soviet ambition lies in the direction of India and Burma, and ultimately Indonesia. Here the Russians have already scored a clever success in Afghanistan, where they obtained traffic rights into Kabul and beyond in exchange for a worthless paper-concession to the Afghanis that they cannot implement.

But the next stop on the route is India, and here they have found that they are dealing with a much more sophisticated government and a modern airline with a keen desire, and ample capabilities, to exploit the attractive route from Delhi via Moscow to London. For *Aeroflot* to obtain "beyond" rights in Delhi, India insists that the Russians yield comparable "beyond" rights in Moscow — something they have so far refused to do. The new Indo-Soviet air agreement provides only for exchange of traffic rights between Moscow and Delhi as termini.

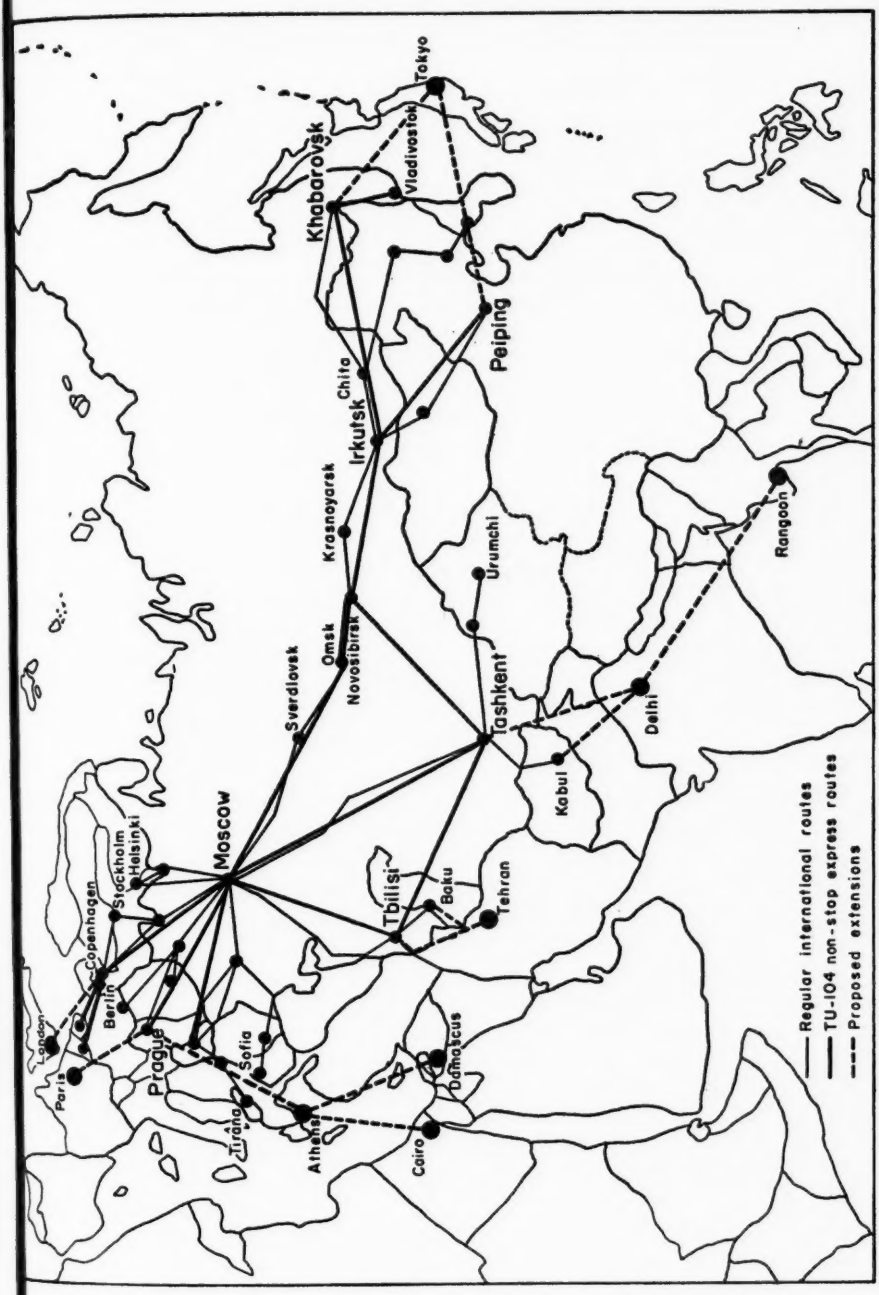

Fig. 4—Aeroflot international routes and proposed extensions

EVALUATION

Soviet aviation tactics show no signs of being guided by considerations of commercial advantage, or by a desire to become a responsible member of the international aviation community. It might even be argued that the Soviet Union is not really interested in international aviation *as such*. Instead, the Soviets seem to look upon aviation as just another device, though a very attractive device, that can be used to enhance their political-power position at relatively low cost to themselves.

Up to now, what we have been seeing is a quite modest effort, consisting in the timely and selective use of very limited Soviet aviation resources for the purpose of winning political good will and technological respect, particularly in the under-developed world. In the future we are sure to be faced with a much more ambitious drive on the part of the Soviets to exert their aviation influence in that area through aircraft sales, technical aviation assistance, and modern air communication.

The first step in this direction is to develop technically and economically attractive aircraft. This they have done, and the new Soviet models will go into service in substantial numbers in the next 3 years. The next step now is to procure for *Aeroflot* the recognition and prestige that goes with the role of a major international flag carrier. To achieve this, they will want to fly their own aircraft into London, Paris, Tokyo, and New York — not because they want to compete with Pan American Airways or TWA, but because it will make the flag on the new Soviet jets look brighter and more impressive when they land in Cairo, Delhi, and Rangoon.

For the United States it is important to recognize the Soviet aviation offensive for what it is: not a commercial challenge aimed at undermining the air-transport leadership of the West, not a bid to slug it out with us competitively in the open market, but a broad contest for national prestige and political influence that employs aviation as only one of many weapons in its versatile arsenal.

THE AIR NAVIGATION COMMISSION OF THE INTERNATIONAL CIVIL AVIATION ORGANIZATION*

Part I

A Study of Its Functions and Powers and an Outline of Its Main Fields of Activity

By Menachem Sheffy
LL.M., The Hebrew University, Jerusalem, 1954

Introduction

When man first conquered the air, only a few could foresee all the implications involved in such an act. Within less than half a century, flight became as common as any other medium of transportation, with almost unlimited potentialities. The aircraft became capable of spanning continents and oceans in a matter of hours, reaching every spot on the globe. Geographical distance had shrunk until few areas remained inaccessible.

The speed and range of aircraft made international collaboration a vital necessity for aviation progress. The full utilization of the aircraft could be attained only by extensive worldwide planning and coordinated efforts made by all nations concerned.

It was not enough to have a swift medium of transportation. It had to be made safe as well. With aviation becoming the possession of the many, the necessity for regulating and establishing supporting services emerged as a primary step in the facilitation of aerial transportation on a global scale. For it is one thing to repeat the act of the Wright brothers and another to make the aircraft a vehicle of public transportation.

Civil aviation may be divided into two complementary fields. One is that of facilitating the actual flight of the aircraft, while the other is that of facilitating the movement of passengers and cargo from one point to another by air. The terms more commonly used to describe these two fields are "air navigation" and "air transport." While the potentialities of the aircraft could not be fully realized without improvements in the field of air transport, the lack of developments in the field of air navigation would have been highly detrimental to the progress of civil aviation.

Air navigation, apart from the science of aeronautical engineering and the manufacture of aircraft, deals with all aspects of the flight of

* A thesis submitted in partial fulfillment of the requirements for the Degree of LL.M. at the Institute of International Air Law, McGill University, Montreal, 1957.

the aircraft and the services with which it is to be provided while in the air and on the ground, so as to make its use safe and efficient. Hence the development of facilities and services, such as aerodromes, telecommunications, meteorological reports, traffic control and so forth, is a prime concern of air navigation.

The qualities of the aircraft make it the most efficient instrument of international transportation. Often an aircraft in flight from one point to another crosses the skies of many states with divergent air navigation facilities, services and regulations. Flight is basically a process whereby movement from one place to another is made more efficient and simplified. The diversity of facilities, services and regulations existing between states tends to complicate and deter efficient aerial transportation. In such a situation operators of aircraft had to comply with different national laws while performing a single international flight. The crew of aircraft had to familiarize themselves with various sets of regulations, procedures, facilities and services.

This situation called for international cooperation in matters of civil aviation. The establishment of uniform facilities, services and regulations to govern air navigation on a worldwide basis became the goal of international civil aviation. The attainment of uniformity in international air navigation was considered as important for the safe and efficient operation of aircraft as the improvement of the aircraft itself.

The achievement of worldwide uniformity in international air navigation required effective international organization and legislation. Hence the implementation of these aims was undertaken by the International Civil Aviation Organization. International legislative action took the form of Annexes to the Convention on International Civil Aviation and other regulatory material promulgated by the Organization and adopted by contracting States.

The importance of this regulatory material lay not only in the fact that substantial uniformity was thus achieved, but in that it enabled operators to learn where the uniform regulations were not adopted and wherein lay the differences between states' regulations and those of the ICAO.

The nerve center of the activities of the ICAO in the field of air navigation is the Air Navigation Commission. Its scope of work embraces practically any matter related to air navigation, and its function is to mastermind and coordinate the activities of the ICAO in this field.

This paper is an attempt to survey and portray the main activities of this Commission. It consists of a discussion of the Air Navigation Committee which preceded the Commission, an analysis of the Commission and of its functions and powers and a description of the most important elements in its scope of activity. This survey does not purport to be exhaustive or comprehensive but only an introduction to the activities of the ICAO in the field of air navigation as carried out through the Air Navigation Commission. Thus the elements constituting the main activities of the Organization in air navigation are

discussed with a view to showing how these activities are related to the work of the Commission. Hence the technical meetings, regional organization of air navigation and the main types of regulatory material are also discussed. Admittedly, each of these subjects is broad enough to justify a separate paper and certainly deserves a more extensive discussion than that allotted to it here. My approach, however, is to explore the above subjects to the extent that will enable the reader to grasp the problems encountered by the Air Navigation Commission, with emphasis placed on the role of the latter in the handling of these problems.

The following survey is almost wholly based on documentation of the International Civil Aviation Organization, including working papers and minutes of meetings of ICAO's bodies. The exclusive use of ICAO material was dictated by the scarcity of any other works on the Air Navigation Commission. In effect there is no single work wholly devoted to the Commission.

Should this paper stimulate further research into the activities of the ICAO and the Commission, then the following exposition of one of the best examples of fruitful international collaboration will have served its purpose.

I. The Air Navigation Committee

A. *General*

The Air Navigation Committee was the forerunner of the Air Navigation Commission. It ceased to exist at the time the Commission was established pursuant to Chapter X of the Convention on International Civil Aviation.[1] The Committee, although being an interim body, operated for over a year after the establishment of the permanent Organization of Civil Aviation, laying much of the ground for the orderly functioning and current practices of the Air Navigation Commission. Regardless of the measure of success and efficiency the Committee attained, the experience it gained was an invaluable asset of the ICAO.

KEY TO THE SYMBOLS FOR ICAO DOCUMENTS LISTED IN FOOTNOTES

A—Assembly
AN, ANC—Air Navigation Commission
C—Council
Doc—Document
P—Plenary Session
Rec.—Recommendation
TE—Technical Commission of Assembly
WP—Working Paper

A combination of the above symbols should be interpreted as illustrated in the following examples:

A1-1—First Assembly Resolution 1
A4-Rec. 4—Fourth Assembly Recommendation 4
A10-WP/20, TE/6—Tenth Assembly Working Paper, Technical Commission, sixth meeting
A10-WP/148, P/15—Tenth Assembly Working Paper, number 148, fifteenth plenary meeting
C-WP/2040—Council Working Paper 2040

Minutes of the Air Navigation Commission are designated as Working Papers:

AN-WP/MIN, X-20—Air Navigation Commission Minutes, Tenth Session, twentieth meeting

[1] Signed at Chicago on December 7, 1944. ICAO Doc 7300.

Through a process of trial and error, the Committee established the patterns for the carrying out of much of the technical work of the Organization. Its very existence contributed greatly to the promotion of the technical legislation in the field of air navigation. When the Air Navigation Commission was constituted, the Second Assembly took cognizance of the importance of the experience gained by the Committee stating: "That the change from the Committee to the Commission structure be accomplished . . . in so far as practicable and legally permissible, without sacrificing the experience gained in the functioning of the . . . Committee during the life of the Interim and Permanent Organizations."[2]

In spite of the structural and constitutional defects inherent in the Committee, strong sentiments were voiced in the Council for its continuation, intact or on a revised basis. Although the majority of the representatives on the Council voted for the replacement of the Committee by an Air Navigation Commission as provided for by the Convention, the Council, in its report to the Second Assembly, submitted two proposals regarding the replacement of the Committee. The first proposal was in conformity with the provisions of the Convention, while the second proposal was in effect a compromise between the Committee's status and structure and that of the Air Navigation Commission as envisaged by the Convention.[3]

The Second Assembly logically concluded that the Air Navigation Commission should be established pursuant to the Convention.[4] Had the other proposal been adopted, a revision of the Articles of the Convention dealing with the Air Navigation Commission would have been necessary. Thus the Committee became a chapter in the history of international civil aviation, but its significance in a study of the Air Navigation Commission is more than historical. As stated above, many of the characteristics of the present Commission can be traced back to the Committee, providing important material for a comparative study of the two bodies.

B. *The Status of the Air Navigation Committee*

The Committee was established as part of the Provisional International Civil Aviation Organization (PICAO), and as such was also intended to be a provisional body. The Interim Agreement on International Civil Aviation reads as follows:

> The powers and functions of the Council shall be to:
>
> . . . 5. Provide for the establishment of any subsidiary working groups which may be considered desirable, among which there shall be the following interim committees:
>
> . . . b. A Committee on Air Navigation. . . .[5]

---

[2] Resolution A2-8, paragraph 2, ICAO Doc 7670(1956), p. 73.
[3] ICAO Doc A2-P/9(20/4/48), pp. 3-14.
[4] Resolution A2-8.
[5] Interim Agreement on International Civil Aviation (Chicago 1944), Article III, Section 5, Department of State Publication 2820, International Organization and Conference Series IV, I, 135.

Hence the following elements constituted the status of the Air Navigation Committee:

(a) The establishment of the Committee was made a mandatory function of the Interim Council.

(b) The Committee was a subsidiary body of the Interim Council.

(c) The Committee being a part of the PICAO and established under the Interim Agreement was to be abolished with the coming into force of ". . . a new permanent convention on international civil aviation. . . ."[6]

Hence the similarity between the Committee and the later Commission lay in the provisions that made their establishment obligatory. The main dissimilarity between the states of the two bodies was the fact that the Committee was a subsidiary body of the Council, while the Commission, though extensively under the control of the Council, is not, under the terms of the Chicago Convention, a "committee of the Council."

C. *The Composition of the Air Navigation Committee*

The Committee was designed in order to carry out work in the field of air navigation. The work it was originally intended to perform was basically of a technical nature requiring substantial scientific knowledge and qualifications. Nothing, however, in the provisions of the Interim Agreement dealing with the Committee required any technical qualifications from its members. This fact was actually one of the major handicaps in the work of the Committee. In reality it was not a technical committee although the material it had to deal with posed often highly complicated technical problems. The composition of the Committee made it unable to fulfill its original functions of acting as an advisory body examining the very substance of technical problems related to air navigation. The result was that the Committee had to re-interpret its functions so as to reconcile them with its technical ability. The consequences were that the Committee became a coordinating body rather than a source wherefrom technical regulatory material originated.[7] The Committee approached with much hesitation technical drafts it was presented with by the Divisions, imposing on itself a doctrine of inviolability of divisional recommendations.[8] Such an interpretation of the Committee's functions was inevitable in view of the drawbacks inherent in its composition. However, it would be unjust to say that the Committee had always avoided dealing with the substance of technical problems. It would be more correct to assert that this was rather the trend but not the rule.

The Committee, unlike its successor, was unlimited as to the number of its members.[9] The Interim Agreement provided that: "If a

[6] Ibid., Article I, Section 3, p. 132.
[7] ICAO Doc 4507, AN/521(7/7/47), para. 7, and Doc 6158, AN/682(29/9/48), para. 5.
[8] ICAO Doc 5286, C/652(13/4/48), p. 3.
[9] The Committee normally operated with eighteen members.

member State so desires, it shall have the right to appoint a representative on any such interim committee or working group."[10]

While a controversy exists with regard to the nature of membership of the Commission, no such controversy exists with respect to the members of the Committee. Committee members were not only nominated by contracting States but also appointed by them. While it is not decidedly clear whether members of the Commission act as representatives of their respective States, or as appointees of the Council and in an individual capacity, no such problem existed with regard to Committee members who were appointed by their respective States and thus were national representatives. Consequently, the term of membership of Committee members was decided by their States[11] and not, as in the case of the Commission, by the Council. The only appointment made by the Council was that of the Chairman of the Committee.[12]

The fact that the Committee was an all-inclusive body, unlimited as to the number of its members, was in effect a factor detrimental to its efficiency. Technical problems, by their very nature, can be most effectively dealt with by a small group. The Committee was not such a group.

Nothing said above should be taken as a reflection on the integrity and ability of the individual members of the Committee. Their path-finding work and pioneering in the field of air navigation is most praiseworthy.

D. *The Functions and Powers of the Air Navigation Committee*

The functions of the Committee were also laid down in the Interim Agreement reading as follows:

> (1) Study, interpret and advise on standards and procedures. . . .
>
> (2) Recommend the adoption, and take all possible steps to secure the application of minimum requirements and standard procedures with respect to the subjects in the preceding paragraph.
>
> (3) Continue the preparation of technical documents, in accordance with the recommendations of the International Civil Aviation Conference approved at Chicago on December 7, 1944, and with the resulting suggestions of the member States, for attachment to the Convention on International Civil Aviation, signed at Chicago on December 7, 1944.[13]

The above functions can be divided into several categories, all in the field of air navigation:

(a) Research functions—the study and preparation of technical material and air navigation regulations.

(b) Advisory functions—recommendations as to action to be taken with respect to air navigation matters.

---

[10] Interim Agreement, Article III, Section 5.
[11] ICAO Doc A2-P/9, paragraph 8.3.
[12] ICAO Doc 1066, C/79(21/12/45), Section IV, paragraph 2.
[13] Interim Agreement, Article III, Section 6, paragraph 3b.

(c) Supervisory functions—the taking of "steps to secure the application" of air navigation regulations.

The Interim Agreement, however, did not specify how the Committee should perform these functions. The research functions assigned to the Committee implied a high degree of technical capability, which the Committee itself did not possess. The solution to this problem came in the form of the Divisions, which formally were "sub-committees" of the Committee, though actually they were nothing less than periodical meetings of experts in a specific field of air navigation, engaged in the formulation of technical regulatory material of ICAO. With the Divisions doing the research and originating air navigation regulations, a process of transformation took place whereby research functions of the Committee became in effect supervisory ones. Such a process was inevitable in view of the fact that the Committee members were not technical experts.

The organizational re-adjustments whereby functions originally assigned to the Committee were in effect exercised by the Divisions, made the latter, in practice, more than "sub-committees" of the Committee. This situation was reflected in the Rules of Procedure of Technical Committees and Divisions of the Interim Council[14] which provided that "The Council shall establish any subsidiary working groups including any technical committees or divisions which it may consider desirable. . . ."[15] The same set of rules defined a Division as a ". . . technical committee of the Council."[16] This approach to what were formally "sub-committees" of the Air Navigation Committee was understandable in view of the fact that the Committee was actually a segment of the Council.

The Committee, however, was left with some powers enabling it to have some measure of control over the Divisions. It could, if it so wished, issue directives to the Divisions regarding matters within its range of functions.[17] The lack of such directives would not have prevented Divisions from carrying out work on their own initiative since they were empowered to take independent action.[18] The power of the Committee to issue directives to the Divisions was not exclusive, but was concurrently held by the Council.[19]

The terms of reference of the Committee[20] provide a further clarification of its functions. Although the formulation of draft Annexes was left to the Divisions, it was the function of the Committee to submit such proposals to the Council for adoption.[21] The Committee was also granted a wide field of discretion in making recommendations. It was entitled to submit to the Council recommendations necessary ". . . in

[14] ICAO Doc 1066, C/79(21/12/45). See also Interim Agreement S:II(1).
[15] Ibid., Section II, paragraph 1.
[16] Ibid., Section I, paragraph 2.
[17] ICAO Doc 1066, C/78(21/12/45), Section II, paragraph 6.
[18] Ibid.
[19] Ibid.
[20] ICAO Doc 6808-C/791(June 1949), p. 19.
[21] Ibid., paragraph 2.1.

order to promote safe, regular and efficient . . . air navigation."[22] This provision actually empowered the Committee to act in its advisory capacity on a wide range of matters, including all the important aspects of air navigation.

The terms of reference clarify also administrative functions of the Committee. It could make recommendations with respect to the establishment of Divisions[23] although, as pointed out above,[24] it could not establish them. It was also empowered to ". . . direct and coordinate the work of the divisions, recommend to the Council the places and times for their meetings, and approve their agenda and plans for documentation."[25] The power to approve the divisional agenda granted the Committee an invaluable means whereby it could exercise control over the range and scope of work of the Divisions.

The Committee was entitled to exercise powers similar to those mentioned above with respect to Regional Air Navigation Meetings and Special Meetings.[26] One formal difference, however, existed. The Committee was not empowered to direct and coordinate the work of such meetings. It could do so, in effect, through its power to approve the agenda of meetings.

Additional functions of the Committee included advising the Council on questions of ". . . training personnel who are to operate air navigation services . . ."[27] and on ". . . methods for ensuring the application and observance of standards and the provision and adequacy of aids to international air navigation."[28] It should be noted that this last function required a reporting machinery following up the implementation of the Organization's regulatory material. This work was undertaken by the Secretariat and its Regional Offices discussed later in a section devoted to the latter.

In the realm of international relations the Committee was given the task of recommending to the Council ". . . measures for the promotion of international collaboration in research and development of techniques of air navigation."[29]

Finally, the Committee was entitled to make recommendations with reference to the technical provisions of the Chicago Convention. It could formulate and initiate ". . . proposals for amendments to the provisions of the Convention relating to air navigation."[30]

These were the functions of the Committee. Not all of them were clear and easily definable, some of them beyond the capability of the Committee. How these functions were interpreted and carried out will be discussed in the next section.

---

[22] Ibid., paragraph 2.2.
[23] Ibid., paragraph 3.
[24] Supra, p. 13.
[25] ICAO Doc 6808-C/791 (June 1949), paragraph 3.
[26] Ibid., paragraph 4.
[27] Ibid., paragraph 9.
[28] Ibid., paragraph 5.
[29] Ibid., paragraph 7.
[30] Ibid., paragraph 10.

E. *The Committee in the Exercise of Its Functions and Powers*

Constitutions of international organizations are normally interpreted through the actions of the bodies established by them. Often an action of an international organization seems to overstep its powers as laid down by its constitutional statutes. Such a process of practical re-legislation is inevitable in the realm of international organizations, where legislation is slow to come and circumstances are fast changing.

As previously indicated, the Committee pursued a policy which amounted to a process of reconciling its functions and powers with its technical capabilities.

With respect to Divisions, Committee members regarded their powers as being "rarely creative"[31] but as:

> 1. *Supervisory*—by ensuring that future agenda contained work that could be accomplished by the Organization.
>
> 2. *Conciliatory*—by attempting to reconcile national views. If this proved impossible the item should be referred again to the Division for further study.
>
> 3. *Coordinating*—by coordinating the activities of one Division with that of another to prevent over-lapping. If that could not be straightened out, no action should be taken.[32]

Evidently, the Committee did not think that it could take direct action to change reports whenever its views conflicted with those expressed in divisional reports. The Chairman of the Committee stated the policy of the Committee, saying that ". . . the Committee had not in the past considered that it could materially alter the reports of Divisions. . . . (and that) . . . coordination was the main function of the Committee."[32a]

The function of coordination was most manifest when it came to the reviewing of divisional reports, especially those parts which dealt with Standards and Recommended Practices and Procedures. The reviewing procedure of the Committee consisted of:

> . . . forwarding copies of the report to contracting States, asking for their comments on those of its sections which deal with Standards and Recommended Practices; (and)
>
> . . . a review of the remaining sections by the . . . Committee with a view to early action thereon by the Council.[33]

Although the Committee did not alter divisional reports, it had a few avenues of action open to it if it wished to effect changes. It could refer back to the Division any report which was inconsistent with its own views or those of contracting States. Alternatively, it could submit the report to the Council with recommendations reflecting such inconsistencies and disagreements, leaving it to the Council to decide which

---

[31] ICAO Doc 6158, AN/682(29/9/48), paragraph 5.
[32] Ibid., paragraph 5.
[32a] ICAO Doc 4507, AN/521(3/7/47), paragraph 7.
[33] ICAO Doc 4474, AN/507(19/6/47), paragraph 1.

view should prevail.[34] The Committee could also defer action on a report until such time as agreement could be expedited.[35]

Redrafting of divisional reports was not the function of the Committee but that of the Secretariat. Nevertheless, the Committee was careful not to let redrafts distort the original intentions of Divisions, and in cases where redrafts deviated from the original recommendations of Divisions, the Committee preferred to act on the original divisional report.[36]

Recommendations of Regional Air Navigation Meetings were treated by the Committee similarly. When conflicting recommendations were made by such meetings, the Committee referred them back to member States concerned.[37] Reports of Regional Air Navigation Meetings were not always addressed to the Committee but rather to the Council since there was no clear rule about that. On the whole, the Committee acted with greater hesitation when it had to deal with regional recommendations than with respect to those of Divisions. One of the Committee members asserted that Regional Air Navigation Meetings were of the same status as that of the Divisions.[38] The Committee, however, agreed that ". . . urgent matters arising out of the Regional Meetings, should be dealt with directly by Council, or by the President authorized by Council or by the President with a select committee authorized by Council."[39] As in the case of Divisions, the main function of the Committee with regard to Regional Air Navigation Meetings was that of coordination. The Committee had to examine the over-all effect of regional activities with a view to facilitating universal uniformity wherever and whenever possible.

The Divisions and the Regional Air Navigation Meetings could be considered as the main "work contractors" of the Committee. Problems referred to the Committee by the Council were usually of too wide a scope to be of a detailed technical nature, being primarily administrative aspects of international air navigation. The Council had constant control of the Committee, with the latter reporting exclusively to the former.[40] The Council could also put the Committee into action, at any given time, by referring air navigational problems to it.[41]

The agenda of the Committee was made up of items proposed by a variety of entities. It included items proposed by Divisions (their reports automatically considered agenda items), Regional AN Meetings, the President of the Council, the Secretary General, member States, and of course the Assembly and the Council.[42] The lack of a filtering machinery resulted in the Committee being constantly behind

---

[34] ICAO Doc 6655, C/758(3/3/49), p. 3, paragraph 8.
[35] ICAO Doc 6138, AN/676(16/9/48), paragraph 2.
[36] ICAO Doc 6218, AN/707(19/10/48), in reference to redraft.
[37] ICAO Doc 4507, AN/521(3/7/47), paragraph 7.
[38] ICAO Doc 4776, AN/555(3/10/47), paragraph 3.
[39] ICAO Doc 5415, AN/624(4/5/48), paragraph 6.
[40] Interim Agreement, Section 6, paragraph 4.
[41] ICAO Doc 6808-C/791(June 1949), p. 19, paragraph 1.
[42] ICAO Doc 1066, C/79(21/12/45), Section V, paragraph 1.

its schedule. A contributing factor to the Committee's lagging behind its schedule was the size of its membership.[43]

F. *Conclusions*

The harshest of critics cannot deny that the Air Navigation Committee had a substantial share in the success of the ICAO. It operated through the formative years of the Organization and had a deep impact on its successor, the Air Navigation Commsision. Many of the established practices of the Commission can be traced back to the Committee. The Committee facilitated the adoption of extremely important Annexes and considerably promoted uniformity in the field of air navigation.

The basic deficiency in the Committee's work was the lack of a bold approach to the problems of air navigation. The Committee suffered from justified under-confidence, resulting in a re-interpretation of its functions and improvised adjustments. Criticism of the Committee was often voiced in Council meetings, but little, in a constructive way, was done to remedy the situation. The process of delegating powers affecting air navigational matters became meaningful only after the establishment of the Air Navigation Commission, and it is regretful that the Council did not fully utilize this method with respect to the Committee so as to compensate for its technical shortcomings.

On the whole, the ICAO, international aviation and contracting States benefited greatly from the work of the Committee, and bearing in mind all circumstances, the Air Navigation Committee more than justified its existence.

II. The Air Navigation Commission

A. *Constitutional Provisions*

The Air Navigation Commission was established pursuant to the provisions of the Convention on International Civil Aviation signed at Chicago on December 7, 1944. Article 54 (e) of this Convention imposed upon the ICAO council the duty to "Establish an Air Navigation Commission in accordance with the provisions of Chapter X;".

Chapter X of the Convention consists of Articles 56 and 57, the first dealing with the structure and composition of the Commission, the second dealing with its duties. Article 56 provides that:

> The Air Navigation Commission shall be composed of twelve members appointed by the Council from among persons nominated by contracting States. These persons shall have suitable qualifications and experience in the science and practice of aeronautics. The Council shall request all contracting States to submit nominations. The President of the Air Navigation Commission shall be appointed by the Council.

[43] Usually eighteen members. Compare with Article 56 of the Chicago Convention providing that the Air Navigation Commission comprise twelve members.

Article 57 reads as follows:

> The Air Navigation Commission shall:
>
> (a) Consider, and recommend to the Council for adoption, modifications of the Annexes to this Convention;
>
> (b) Establish technical subcommissions on which any contracting State may be represented, if it so desires;
>
> (c) Advise the Council concerning the collection and communication to the contracting States of all information which it considers necessary and useful for the advancement of air navigation.

Another provision of the Convention with a direct bearing on the Commission is Article 55 (b) of the Convention. This Article provides that the Council may expand the Commission's functions by delegating to it duties additional to those included in Article 57 of the Convention.

A further source listing in greater detail the functions and powers of the Commission, may be found in the Commission's Terms of Reference,[44] which shall be dealt with in the section analyzing the powers and functions of the Commission.

B. *The Status of the Air Navigation Commission*

The Commission is one of the representative bodies of the ICAO. It is a somewhat unusual body, not being a committee of the Council nor its subsidiary body, yet it is extensively under the control of the Council. The Commission is under duty to ". . . report directly and exclusively to the Council."[45] The above quoted Article 57 also provides that the recipient of the Commission's advice would be the Council.

The duty of establishing the Commission and appointing its members resides wholly in the hands of the Council[46] and it is not clear whether Commissioners are national representatives or act in an individual capacity.[47]

Although it is the Council which lays down the terms of reference of the Commission, it is doubtful whether the Council can legally revoke or modify powers assigned to the Commission by the Convention.

It would be difficult to define clearly the status of the Commission. Nevertheless it is fair to assume, judging by its functions, that the Commission is a subservient body of the Council, while the Council is under duty to establish such an entity and to entrust it with at least the functions listed in Article 57 of the Convention.

The special status of the Commission is evident when compared with that of the Air Transport Committee provided for in Article 54 (d) of the Convention reading:

> The Council shall:
>
> . . . (d) Appoint and define the duties of an Air Transport Committee, which shall be chosen from among the representatives

---

[44] ICAO Doc (revised) 7162, C/825 (4/7/51).

[45] Rules of Procedure of the Air Navigation Commission, ICAO Doc 6901, C/800 (8/9/49), Section II, paragraph 1.

[46] Convention, Art. 54 (e) and Assembly Res. A2-8, Doc 7670, p. 73.

[47] For further discussion of this matter see next section.

> of the members of the Council, and which shall be responsible to it;".

The differences between the Air Transport Committee and the Air Navigation Commission are clear. The definition of the duties of the Air Transport Committee lies completely within the discretion of the Council. The Committee is plainly a subsidiary body of the Council, being composed of Council members. No special qualifications are required from members of the Air Transport Committee, and as Council members, they are chosen to serve as national representatives and not in an individual capacity.

Attention should also be drawn to a provision making it mandatory upon the Council to "Consider recommendations of the Air Navigation Commission for amendment of Annexes. . . ."[48] This provision ensures the Commission that its recommendations with respect to Annexes will receive proper consideration.

C. *The Composition of the Air Navigation Commission*

The Air Navigation Commission, as envisaged by the Convention,[49] is a limited body of twelve members. Although the number of members is set at twelve, the Commission has been operating with only nine members at best. The failure of the Council to appoint the full number of members prescribed by the Convention was partly a consequence of a resolution passed by the Second Assembly, directing the Council to establish the Commission[50] and stating that the Council ". . . appoint to the Air Navigation Commission persons from among the nominees of Council Member States;".[51] The Council, in pursuance with the above directive, issued invitations to all contracting States, as it was required to do under the Convention when proceeding to establish the Air Navigation Commission,[52] but at the same time drew the attention of contracting States to Resolution A2-8. By so doing, the Council, in effect, told contracting States that their nominees stood no chance of being appointed to the Commission unless their respective States were Council Members.[53] It seems that both the Assembly and the Council acted in contradiction of Article 56 of the Convention. Indeed, this Article empowers the Council to exercise its discretion in the appointment of Commissioners, but only on the grounds of suitable qualifications and experience of nominees. Article 56 states that the Council make appointments from among persons nominated by contracting States and implies discrimination based only on qualifications and experience of nominees. To interpret this Article as permitting the Council to limit appointments to Council Member States only, would be to breach, if not the letter, then at least the spirit of the Convention. It is further contended that the above mentioned paragraph of Reso-

[48] Chicago Convention, Article 54(m).
[49] Ibid., Article 56.
[50] Resolution A2-8, ICAO Doc 7670, pp. 72-73.
[51] Ibid., paragraph 3.
[52] Chicago Convention, Article 56.
[53] ICAO Doc 6544-C/742(Feb. 1949), p. 74.

lution A2-8 of the Assembly is inconsistent with the first paragraph of the same Resolution stating that the Council implement Article 56. One cannot implement Article 56 and at the same time impose the restrictions specified in the above Resolution, without breaching the Article. It would be reasonable to assume that, to the extent to which Commissioners had been appointed pursuant to Resolution A2-8, the appointments were legally invalid and void and the Commission improperly constituted.

The Council, however, did embark upon the road prescribed by the above Resolution, and concluded the appointment of nine Commissioners. Having no nominees from contracting States which were not Council Member States, the Council encountered difficulties in filling the three remaining vacancies. With no other choice left, the Commission has been operating as an incomplete body, constituting another case of disaccord with Article 56 of the Convention. The legality of establishing the Commission with only nine members was questioned in the Council,[54] but the Council felt that the Commission was legally constituted since the Council was taking action to secure three more appointments.[55] The filling of the three remaining vacancies required a change of policy, this time in the right direction, and the Assembly, apparently having second thoughts as to the legality of Resolution A2-8, remedied the situation with a new resolution.[56] Resolution A4-4 directed the Council to secure nominations from all contracting States and ". . . not to discourage in any way non-Council Member States from making nominations."[57] Although the legal basis was thus laid down for the proper appointment of Commissioners, the Commission is still short of complete membership and the Assembly had to resolve again:

> To urge all contracting States, particularly those not represented on the Council, to make further efforts to nominate candidates for membership in the Commission, in order that the Commission may attain full strength when it reconvenes after the Tenth Session of the Assembly, special attention to be drawn to the advisability of wider geographical representation through the presentation of nominations by contracting States in regions not now represented in its membership. . . .[58]

As stated above, the only grounds for discrimination between nominees are their qualifications and experience in the science of aeronautics. The Convention does not specify the qualifications required, and it is left to the Council to decide what the proper qualifications are. One representative on the Council indicated the trend as to appointment of Commissioners in defining the Commission as ". . . a body of men of very high scientific culture, with practical experience in air

---

[54] ICAO Doc 6575, C/748(21/2/49), pp. 3-9.
[55] Ibid.
[56] Fourth Assembly, Resolution A4-4, ICAO Doc 7670(1956), p. 133.
[57] Ibid., see also ICAO Doc 6576, C/749(21/2/49), pp. 2-10.
[58] Tenth Assembly, Resolution A10-9, clause (1), ICAO A10-WP/148, P/15 (16/7/56), p. 6.

navigation but not specialists in any field of aeronautical science."[59] A view expressed six years later repeated the same approach as follows: "While Commissioners might be specialists in particular fields, they had been appointed because of their general knowledge of aviation matters which qualified them for the very diversified work of the Commission."[60]

The Air Navigation Commission was designed to deal with a great variety of air navigational matters, therefore the approach of the Council to the question of qualifications required from Commissioners is very sound. The Commission is not a panel of specialists but a body of people who can understand the conclusions arrived at by specialists, approaching such conclusions with constructive criticism.

The status of a Commissioner is one of the points still unclear. This problem has been a subject of controversy in the Council. The Convention does not shed any light on this matter. One view held that, while nominations for membership in the Commission were submitted by States, the Council appointed the national nominees as individuals, and once appointed, the latter did not serve as representatives of their States but as qualified individuals appointed by an international body, that is, the Council.[61] The opposing view, apparently held by the representative of the United States, was that the Commissioners act as representatives of their respective States.

The President of the Council, surveying this problem, summarized what was in the mind of those responsible for the drafting of the provisions of the Convention relating to the Air Navigation Commission as follows:

> There had not been complete unanimity at Chicago among those who favored the Commission. Some had thought it should have been made fully international, with its members paid by the Organization. The majority, however, did not consider that there was necessarily any conflict between the status of the Commission as an international body and the payment of its members from national funds by the States by which they were nominated. . . . It has not been expected, as he had understood the views held at Chicago, that the members of the Commission would act in a purely international capacity. They would have a dual responsibility, national to the States which had nominated them and international to the whole group of States represented by the Council which had elected them.[62]

It would be difficult to expect Commissioners to detach themselves from national interests. On the other hand, it should be mentioned that the Commission succeeded in developing a commendable spirit of international cooperation, the Commissioners rarely acting as national representatives, but rather as members of a body devoted to the promotion of air navigation internationally. It should be added that the

[59] ICAO Doc 6131, C/689(8/9/48), paragraph 79, p. 13.
[60] ICAO Doc 7490-4, C/873-4(5/10/54), paragraph 33, p. 49.
[61] ICAO Doc 7177-7, C/828-7(16/10/51), paragraph 78 and ICAO Doc 7037-4, C/814-4(22/9/50), paragraph 21, p. 50.
[62] ICAO Doc 5286, C/652(13/4/48), paragraph 4, p. 2.

Chairman of the Commission is elected by the Council,[63] hence he at least may be considered a representative of the international community rather than as a national representative. The Chairman's election is, in effect, a double act by the Council, which elects him first as a Commissioner, and then as a Chairman.

D. *Control of the Council Over the Commission*

We have seen above that the Commission has a peculiar status in the Organization, not being a subsidiary body of the Council, and yet extensively under its control.

The Council exercises control over the work of the Commission through its power to approve or disapprove the agenda and work program of the Commission.[64] It should be noted here that, although the Commission was granted the power to approve the Technical Work Program of the Organization,[65] it has to submit its own agenda to the Council for approval.

A further control, of a more basic nature, is the power of the Council over the terms of reference of the Commission. Paragraph 12 of these terms reads: "The Council shall from time to time examine the functions and terms of reference of the Air Navigation Commission and may amend such functions and terms of reference at any time."[66] This should not be interpreted as enabling the Council to strip the Commission of the powers entrusted to it by the Convention, but a look at Article 57 will convince us that the Commission can achieve practically nothing without action by the Council on its recommendations. The Council has also full control over the Rules of Procedure of the Commission and may suspend or amend them at any time.[67]

A very important factor in making the Commission an effective body is the practice which the Council has employed of delegating some of its powers to the Commission. Such delegations of authority are completely within the discretion of the Council and can be revoked by it at any time.[68]

The over-all control which the Council has over the Commission is indicated by the very fact that the Commission is primarily not an action-taking body but an advisory organ. The Commission is under duty to ". . . report directly and exclusively to the Council, except when otherwise determined by the Council."[69]

As mentioned above, the Council extended the powers of the Commission by delegating to it authority in certain matters. The Commission, however, has imposed upon itself two important restrictions with respect to delegated authority:

---

[63] ICAO Doc 7162(revised), C/825(4/7/51), paragraph 6.
[64] ICAO Doc 6901, C/800(8/9/49), Rules of Procedure of the Air Navigation Commission, Section VII, paragraph 2.
[65] ICAO C-WP/2040, Appendix "A," as amended and approved by the Council on November 22, 1955(C-XXVI-12), paragraph 5.2.
[66] ICAO Doc 7162, C/825(4/7/51), Terms of Reference, para. 12.
[67] ICAO Doc 6901, C/800(8/9/49), Section 12, paragraph 1.
[68] Chicago Convention, Article 55(b).
[69] ICAO Doc 6901, C/800, (8/9/49), Section II, paragraph 1.

(a) When a subject, falling within the Commission's delegated powers, is controversial, or when the opinions of States and the opinions of the Commission regarding this subject are divided, the Commission will refer the matter to the Council.[70]

(b) The Commission agreed that it should not be granted powers enabling it to impose obligations upon States, recognizing that such powers should rest with the Council.[71]

The relation between the Council and the Commission will be further clarified when the different functions and powers of the Commission are reviewed later in this paper.

E. *The Nature of the Powers and Functions of the Commission*

There are several ways in which the powers and functions of the Commission may be classified. These include classification by source, and classification by nature of action.

(a) *Classification by Source*

This classification is the broadest of all, consisting of two categories of powers:

(i) Powers granted to the Commission by the instrument providing for its establishment, embodied in Article 57 of the Convention.

(ii) Powers granted to the Commission by the Council under Article 55 (b) of the Convention.

Article 57 of the Convention enumerates two types of powers, advisory and organizational. The advisory powers are those with respect to modification of Annexes and collection and dissemination of information concerning air navigation. The organizational powers include the establishment of technical subcommittees, better known as Divisions.[72] However, this last power is of no great significance at present since the Divisions have already been established.[73] This situation was reflected in the change of the terms of reference of the Commission. While the original terms of reference of the Commission specified that the Commission may ". . . recommend to the Council the establishment of technical devisions . . .",[74] the terms of reference replacing the original ones[75] omitted this erroneous provision substituting for it a provision empowering the Commission to make recommendations for the convening of Divisions.[76] It is contended that the original provision was legally indefensible since Article 57 (b) of the Convention granted the Commission the power to establish Divisions, not merely to recommend their establishment. The Council, however, has restricted the Commission's power to establish Divisions, by providing that the

[70] ICAO AN-WP/MIN, XX-21(21/11/55), p. 113.
[71] ICAO AN-WP/MIN, XX-3(3/10/55), paragraph 6, p. 12.
[72] ICAO Doc 1016-C/77(12/12/45), Ninth Meeting and ICAO Doc 6901, C/800 (8/9/49), Section VI, paragraph 1.
[73] The only Division which has come into existence, following the establishment of the Commission, is the AIS Division.
[74] ICAO Doc 6544-C/742(Feb. 1949), p. 71.
[75] ICAO Doc 7162(revised), C/825(4/7/51).
[76] Ibid., paragraph 1.3.3.

"Technical subcommissions of the Commission, called 'Divisions,' may be established by the Commission, subject to approval by the Council."[77]

Delegated authority, pursuant to Article 55 (b) of the Convention, constitutes a substantial part of the Commission's range of powers. The Commission's terms of reference[78] consist partly of delegated authority and partly of amplifications of the powers prescribed by Article 57 of the Convention. Other delegations of authority were made through separate resolutions of the Council. A cumulative statement of matters on which the Commission is authorized to take action was approved by the Council on November 22, 1955.[79]

It is noteworthy that some of these delegated powers enable the Commission to take action which is more than advisory, some of them involving definitive action on regulatory material in its final form.[80] Other delegated powers deal with new forms of deliberative bodies, administrative functions and the utilization of the Secretariat.

It should be mentioned here that the Commission deliberately imposed upon itself two restrictions of principle with respect to delegated powers, as stated previously.[81]

(b) *Classification by Nature of Action*

The Commission, though not a subsidiary body, is a subservient body of the Council, constantly advising and guiding it in matters of air navigation.[82] In the most important matters, those concerning the adoption of technical Annexes, the responsibility lies with the Council.[83] The other matter upon which the Council takes action, is the approving of directives to Divisions, and the dates and sites of sessions of the Divisions.[84] The powers of the Commission in these matters consist of taking action of an advisory nature. Although all the provisions of the Commission's terms of reference deal with such powers, the delegated authority covers matters on which the Commission is permitted to take definitive action, including organizational action, as with respect to the establishment of panels and Regional Air Navigation Meetings,[85] consequential amendments of secondary regulatory material,[86] and publication of technical guidance material.[87]

The Commission also exercises, by virtue of delegated authority, extensive control over Technical Meetings and their scope of work.[88] The Commission is the recipient of reports of Technical Meetings and

---

[77] ICAO Doc 6901, C/800(8/9/49), Section VI, paragraph 1.
[78] ICAO Doc 7162, C/825(revised) (4/7/51).
[79] ICAO A.N.C. Procedural Documents (Montreal 1956), p. III-1.
[80] Ibid., paragraphs 3.6 and 4.1.
[81] Supra, p. 33.
[82] ICAO C-Draft Minutes, XIV(3) (22/10/51), p. 33.
[83] Chicago Convention, Article 37.
[84] ICAO Doc 7162(revised), C/825(4/7/51), paragraph 1.3.3.
[85] ICAO C-WP/2040, Appendix "A," as amended by Council on November 22, 1955 (C-XXVI-12), paragraphs 1 and 3.
[86] Ibid., paragraphs 4.1 and 3.6.
[87] Ibid., paragraph 4.2.
[88] Ibid., paragraphs 1, 2, and 3.

panels, before such reports are submitted to the Council for action. It filters the reports and takes action on those parts of the reports falling within its jurisdiction.[89]

III. The Technical Work Program

The work of the International Civil Aviation Organization can be roughly divided into two categories. The first category, which does not fall within the scope of this paper, concerns matters relating to air transport. The term "air transport" should not be taken as synonymous with the term "aviation," since it explains only a part of the latter term. By "air transport" I refer to those matters directly related to the moving of cargo and people by air from one point to another. Essentially these matters are of an economical and administrative character, dealing with passengers, cargo, immigration, customs, and so forth. It might be said that air transport matters deal with the utilization and exploitation of the instruments of civil aviation.

The second category, with which this paper is concerned, deals with matters related to air navigation. The term "air navigation" refers to those matters dealing with technical aspects of aviation, matters that cover the aircraft and its equipment, its crew, and the facilities serving it.

The technical work of the Organization, concerned with matters of air navigation, constitutes the bulk of ICAO's work. Most of the regulatory material of the Organization, for example, deals with air navigation. The Secretariat is largely a body of internationally recruited technical experts, and most of the meetings organized by the ICAO are of a technical nature.

Hence the task of organizing the technical work, reviewing and remedying technical shortcomings of international civil aviation, and classifying air navigational subjects and material, become a major concern of the Organization. The need for organizing the technical work called for a special framework, a system of reference and priorities, and an organizational file and reservoir from which topics are constantly drawn for study and subsequent action. These functions are fulfilled by the Technical Work Program of the Organization.

The following passage describes clearly the composition and the nature of the Work Program:

> The Organization currently maintains a work program called the "Technical Work Program of ICAO" embracing all facets of the activities of ICAO in the air navigation field. The items of the Technical Work program are derived from the submissions made to ICAO by Contracting States individually, or collectively at air navigation meetings, by other deliberative bodies of the Organization and by the Secretariat. The program contains only those items which have been approved for inclusion by the Council or by the Air Navigation Commission on delegated authority. When technical meetings are convened, appropriate recommendations of past meet-

[89] Ibid., paragraphs 2 and 3.

> ings which are included as items in the Technical Work Program, but on which action has not yet been completed, may be presented to such meetings for recommendation regarding any future action, including suggestions for possible additions.[90]

The role of the Commission in directing the technical work of the Organization is of the greatest importance. Authority has been delegated to the Commission by the Council to amend the Work Program, provided the Council is informed of any substantial change.[91] The Council, however, has not altogether relinquished its control over the Work Program, exercising this control through its powers of discretion with respect to the approval of the sessional work programs of the Commission and through budgetary powers.[92] Furthermore, the Commission has a continuous function with regard to the Work Program, reviewing it and deciding which items have achieved maturity so as to be discussed and acted upon.[93]

The Commission had divided the Technical Work Program into three categories, breaking it down into work programs of specific bodies:

(i) the Work Program of the Commission;

(ii) the Technical Work Program of the Divisions, consisting of items approved by the Commission, and stemming from Council directives, and from proposals of the Commission, Regional Air Navigation Meetings, contracting States and the Secretary General; and

(iii) subject list of topics not included in the above two categories.[94]

The above division of the Work Program was replaced by a system of priorities. This classification also consists of the following three categories:

1. *Category "A"*: consisting of items considered "Active," such as items in the work program of the Commission itself and other bodies, likely to require action by the ICAO in the foreseeable future.
2. *Category "B"*: consisting of items not mature enough to be included in Category "A" at present, but likely to become so as a result of future development in international aviation.
3. *Category "C"*: consisting of items of secondary status calling for action by the Secretariat consequential to Council decisions. These items are also called "Service Items."[95]

The Seventh Assembly limited the scope of the Work Program by resolving:

> (1) That the Council establish definite and strict criteria for the determination of items to be included in the work programs of the

---

[90] Directives to ICAO Technical Meetings and Rules of Procedure for their Conduct, ICAO Doc 7689 (May 1956), Part II, paragraph 2, p. 5.
[91] ICAO Doc 7525-12, C/875-12 (25/1/55), pp. 157-161.
[92] Ibid., paragraph 15, p. 158.
[93] ICAO Doc 7689, Part II, paragraph 3, p. 5.
[94] ICAO AN-WP/MIN, XVI-7 (6/7/54), Appendix B, p. 42.
[95] ICAO Doc 7525-12, C/875-12 (25/1/55), pp. 157-161.

> Air Navigation Commission and its specialist activities, and in the agenda of air navigation conferences and Division meetings, the criteria being based on the existence of specific problems of an international character which are both worldwide in scope and sufficiently mature for discussion with a view to a positive solution;"[96]

The limitations imposed by the above Resolution have had the effect of excluding from the Work Program items that are of no immediate importance.

> A rigid and literal interpretation of resolving clause (1) would mean that no problem, however urgent, can go on the technical work program of the Organization or in agendas for international discussion, either at the Commission or Division level unless agreement on a solution can already be envisaged.[97]

The Assembly, recognizing the damage caused by such restrictions, remedied the situation by a subsequent resolution reading:

> (a) That the technical work program of the Organization may include any subject of an international character that falls within the competence of the Air Navigation Commission and the study of which appears likely
>
> (i) to produce a positive solution of a problem, or
> (ii) to facilitate a subsequent solution of a problem, or
> (iii) to supply contracting States with useful data;[98]

This provision greatly expands the scope of work of technical meetings, permitting them to consider and study potentially important subjects, even if no immediate action is to be recommended thereupon.

IV. The Technical Meetings

A. *General*

The technical meetings of the Organization are undoubtedly a major factor in the success of the ICAO. The effectiveness and quality of ICAO's work in the technical field depend largely on the level of the deliberations in these meetings and the extent of agreement secured.

The primary technical meeting is that of the Division, the other types of technical meetings arising out of it as further developments. Hence the term "Divisional Type Meetings" refers to Division Meetings, Special Meetings and Air Navigation Conferences. Consequently, the powers belonging to the Commission with respect to Divisions, have been extended to embrace also the newer forms of technical meetings.

The major objective of a technical meeting is:

> . . . to contribute within the terms of reference established by its agenda, to the safety, regularity and efficiency of international civil aviation. This objective is achieved by:

---

[96] Seventh Assembly, Resolution A7-7, clause (1), ICAO Doc 7670 (Montreal 1956), p. 207.

[97] ICAO A10-WP/15, TE/1, March 20, 1956, paragraph 27.1.

[98] Tenth Assembly, Resolution A10-15, ICAO A10-WP/148, P/15, July 16, 1956, p. 9.

(a) preparing recommendations for Standards and Recommended Practices and for Procedures for Air Navigation Services, or for amendments thereto;

(b) preparing other recommendations for action by Contracting States or the Organization;

(c) exchanging views on specific problems of current interest.[99]

The technical meetings are deliberative entities made up of national experts ". . . with a view to arriving at the largest possible measure of technical agreement. . . . At this level national views might be expressed, although preferably the expression of opinion should be purely that of experts."[100]

The technical meetings may be divided into two categories, those dealing with worldwide air navigation matters and those limited to regional air navigation matters. Regional Air Navigation Meetings are discussed in the chapter devoted to regional organization. The following remarks, therefore, refer to the technical meetings dealing with worldwide air navigation matters. Before dealing with the different types of technical meetings, it would be worthwhile to sum up the elements common to all technical meetings, other than Regional Air Navigation Meetings.

Technical meetings have no corporate entity or continuous existence. The element of continuity is provided by the corresponding sections in the Secretariat.[101]

The participation in the technical meetings is open to all contracting States.[102] This arrangement partly compensates for the limited membership of the Commission[103] and facilitates the promulgation of regulatory material based on preliminary agreement between contracting States.

Preparations for a technical meeting require meticulous planning far in advance of the actual convening of the meeting. Normally, advance planning starts about two years previous to the meeting.[104] The decision to convene a technical meeting is tightly connected with the degree of maturity achieved by subjects included in the Work Program.[105]

The nature and range of items recognized as mature enough for discussion and action determine the type of meeting to be convened, or may instead indicate that another method for discussing the subjects, for instance, correspondence with contracting States, should be employed.[106]

---

[99] ICAO Doc 7689 (May 1956), Part II, paragraph 1.
[100] ICAO Doc 6655, C/758 (21/3/49), paragraph 66, p. 14.
[101] ICAO Doc 7215-AN/858 (1951), p. 7 and the Report of the Secretary General, ICAO C-WP/597 (23/3/50).
[102] Chicago Convention, Article 57(b) and ICAO Doc 7689, p. 11.
[103] ICAO Doc 6544-C/742 (Feb. 1949), p. 74.
[104] ICAO Doc 7689 (May 1956), Part II, paragraph 3.
[105] Ibid.
[106] Ibid.

The frequency of technical meetings is regulated by an Assembly Resolution reading:

> . . . air navigation conferences and Division meetings shall not normally exceed two in number in any one calendar year, unless otherwise warranted by special circumstances, and, further, that in the scheduling of meetings, consideration at separate meetings within any period of twelve months of subjects falling within the same technical field should be avoided;[107]

The Commission play a decisive role in the planning and the convening of technical meetings. From the initial consideration of items mature for discussion to the process of reviewing reports of technical meetings and recommending action thereupon to the Council, the Commission has a constant responsibility in regard to technical meetings.

The initial step, which is one of the Commission's functions, is the determining and formally recognizing of those Work Program items that have acquired maturity, thus making them eligible for consideration by a technical meeting of a specific type.[108] The recognition of such a situation would then become the basis for the Commission's recommendation to Council to convene a technical meeting at a given time and in a given place.[109] The final decision as to the convening of a meeting rests with the Council, but it is decisively affected by the Commission's recommendations.

The second step normally taken by the Commission is the assignment to the technical meeting of the work to be done by it. The agenda of the technical meeting is the instrument defining its scope and range of work, and it is the responsibility of the Commission to determine and approve this agenda.[110] The preparation of a technical meeting agenda is a rather elaborate matter. Although discretion for the final approval of the agenda is vested in the Commission, the latter consults extensively with contracting States, soliciting their views on the agenda items and the order of priority to be assigned to them.[111] On the basis of these consultations, the Commission drafts a final agenda, submitting it to contracting States at least six months before the convening of the meeting.[112] The final agenda is accompanied by a document entitled "Explanation of Agenda Items" which, as is evident from its title, aims at clarifying and defining agenda items and specifying action expected from the technical meeting.[113] This practice pursues and conforms to the policy adopted by the Assembly, which resolved:

> That the Council study the methods of improving the work of the Divisions, particularly:

---

[107] Tenth Assembly, Resolution A10-15, paragraph (3) (d).
[108] ICAO Doc 7689, Part II, paragraph 3.
[109] ICAO Doc 7162 (revised), C/825 (4/7/51), paragraph 1.3.3.
[110] Ibid.
[111] ICAO Doc 7689 (May 1956), Part II, paragraph 4.
[112] Ibid.
[113] Ibid.

(a) by establishing sufficiently precise terms of reference for each Division to indicate the scope of its work while ensuring that all air navigational problems are encompassed by the Organization;

(b) by establishing each Division's agenda in a manner sufficiently explicit to define the problems that are to be studied and to indicate to States the kind of experts that they should send to a Divisional meeting;[114]

The functions of the Commission in regard to technical meeting agendas, which are also in effect their terms of reference, vest in the Commission a measure of considerable control over the outcome of the meetings. The Commission may also add items to the agenda of a technical meeting after submission of the final agenda,[115] and may ". . . give directives for the conduct of the meeting additional to standing directives approved by Council."[116]

The Seventh Assembly imposed limitations on the scope of the agenda of technical meetings.[117] These limitations severely impeded the conduct of studies of technical items by technical meetings, restricting these meetings to items whose solution was foreseeable. The Tenth Assembly realized that progress in air navigation required a liberal revision of this policy and resolved:

That the agenda of air navigation conferences, Division meetings, special meetings or panels of experts may include, or consist solely of, items limited to an exchange of views when discussion of such items would be profitable. Plans for the discussion of these items should be well organized and the time allotted should not be detrimental to the completion of items of higher priority;[118]

The substantial work of the Commission begins, however, with a review of the reports of technical meetings. As a matter of practice, these reports are addressed to the Commission. They are not considered definitive until reviewed by the Commission and acted upon by the Council.[119] The power to take formal and definitive action with respect to these portions of the reports dealing with Standards and Recommended Practices and Procedures rests exclusively with the Council by virtue of the Convention,[120] but the Commission is empowered to:

. . . examine the recommendations emanating from the meeting with a view to:

(a) determining those upon which Council has not delegated authority to the Air Navigation Commission to act and proposing action accordingly, and

(b) initiating and/or completing action on the remainder.[121]

---

114 Second Assembly, Recommendation A2-Rec.3, ICAO Doc 7670, p. 101.
115 ICAO Doc 7689(May 1956), Part II, paragraph 4 and Part III(6).
116 ICAO C-WP/2040, Appendix "A," paragraph 1.3.
117 Supra, pp. 42-43.
118 Tenth Assembly, Resolution A-10-15, paragraph (3)(b).
119 ICAO Doc 7689(May 1956), Part II, paragraph 8.
120 Chicago Convention, Article 54(1).
121 ICAO C-WP/2040, Appendix "A," paragraph 1.4.

The process of reviewing a report of a technical meeting and acting upon the recommendations therein, is often a lengthy and elaborate matter. Recommendations of technical meetings relating to Standards and Recommended Practices and Procedures assume a special place in the deliberations of the Commission, the latter consulting contracting States before submitting its recommendations to the Council.[122] Although the Commission's recommendations have an important effect upon the deliberations in the Council, the Commission is normally inclined to preserve the original intentions and conclusions of the technical meeting when submitting the report and its recommendations for action to the Council. This enables the Council to have a complete picture of how and where the views of the Commission differ from those of the technical meeting. Hence the Commission's review of a technical meeting report normally consists of the following five phases:

1. The report is examined by the Commission so as to separate recommendations on which the Commission has authority to take action from those on which action rests with the Council.

2. The Commission considers comments and proposals for action with respect to recommendations upon which it is not itself empowered to act. These recommendations are usually related to Standards and Recommended Practices and Procedures (PANS).

3. The proposed Standards and Recommended Practices and Procedures, as modified in the light of the Commission's preliminary review, are transmitted for comment to contracting States as the Commission's proposals.[123]

4. The Commission studies the comments of contracting States and ". . . wherever, in the opinion of the Commission there exists a sound basis for any proposed modifications, the relevant draft specification is reviewed accordingly."[124]

5. The preparation of the final draft which is to be submitted to the Council for action.

It would be fair to say that the technical meetings contributed the lion's share to the establishment of a world-wide system of air navigation regulations. Although the meetings were sometimes hampered by divergent national interests, they have emerged as very efficient instruments for the processing of regulatory material. The flexibility of the technical meetings have enabled the Organization to cope with developments in civil aviation.

B. *The Divisions and the Commission*

"Division" is the title adopted to denote the basic type of technical meeting. Formally Divisions are subcommissions of the Commission established under the Convention.[125]

---

[122] ICAO Doc 7689 (May 1956), Part II, paragraph 8.

[123] ICAO Doc 7689 (May 1956), Part II, paragraph 8, p. 9, see also ICAO AN-WP/MIN, IX-11 (19/3/52), paragraph 8, p. 48.

[124] ICAO Doc 7689 (May 1956), Part II, paragraph 8, p. 9.

[125] Chicago Convention, Article 57(b) and ICAO Doc 7215-AN/858 (1951), p. 6. See also ICAO Doc 7689 (May 1956), p. 3.

The Convention does not define the functions of the Divisions, but as pointed out above,[126] these entities were assigned the function of originating Annexes and other technical regulations. Hence the Divisions acquired an importance of far greater proportion than the title "subcommissions" suggests.

At the present there are eleven Divisions in existence, each of them assigned to a specialized field of air navigation. Corresponding sections exist in the Secretariat providing the nucleus and element of continuity for the work of the Divisions.

The existing technical Divisions represent eleven specialized fields of air navigation classified as follows:

1. AGA — Aerodromes, Air Routes and Ground Aids Division.
2. AIG — Accident Investigation Division.
3. AIR — Airworthiness (including Aircraft Nationality and Registration Marks) Division.
4. COM — Aeronautical Telecommunications and Radio Aids to Air Navigation Division.
5. MAP — Aeronautical Maps and Charts Division.
6. MET — Meteorological Division.
7. OPS — Operations Division.
8. PEL — Personnel Licensing Division.
9. RAC — Rules of the Air and Air Traffic Control Division.
10. SAR — Search and Rescue Division.
11. AIS — Aeronautical Information Services Division.[127]

Divisions normally report their recommendations to the Commission. In the past, such Divisions' reports were in effect draft Annexes, and their formulation required either efficient preparatory work prior to the convening of the Division, or an increased number of Division meetings. Reports of Divisions, before reaching the stage of adoption by Council, are extensively examined by the Commission and then submitted to the Council with appropriate recommendations. It should be noted that the Commission modifies these reports only when absolutely necessary, doing its utmost to reconcile its views with those expressed by the Division.

The initial work of the Divisions was completed with the adoption of the technical Annexes, with the result that their convening became no longer an urgent necessity.[128] The fact that Division meetings are highly specialized and confined to specific issues in the field of air navigation makes their convening too costly in the eyes of many States,

---

[126] Supra, p. 12-13.

[127] ICAO Doc 7689 (May 1956), p. 3.

[128] ICAO AN-WP/MIN, IX-9(25/2/52), paragraph 11, p. 41, and Fourth Assembly Resolution A4-11, ICAO Doc 7670, p. 136.

especially in view of the fact that results are limited to a few specific problems. Hence representation of States in Division meetings was rather poor and irregular, and the Assembly was obliged to urge States to participate more regularly.[129] Subsequently it was deemed necessary to develop a new type of technical meeting which would handle aspects of air navigation in a more comprehensive way and secure better State representation.[130] The instrument considered most suitable to fulfill these requirements was the Air Navigation Conference. This development does not, however, mean that the Divisions are, for all practical uses, dispensed with. The Assembly explicitly stated that:

> . . . while the air navigation conference concept is recognized as a desirable method of coordinating problems in related or associated technical fields, the Council continue to make use of Technical Division meetings . . . as most appropriate to the subject matter under consideration;[131]

Since subjects under consideration at present are not the formulation of new Annexes limited to specific problems, one cannot avoid presuming that there is a definite shift in favor of the use of Special Meetings and Air Navigation Conferences, with the result that the conventional Division meeting will not be employed in the future as extensively as it has been in the past. The change in emphasis and policy with respect to technical meetings is well illustrated in the following passage:

> With the adoption and implementation of annexes and other sets of specifications prepared by the Divisions, the technical problems that subsequently arose within the sphere of air navigation were not always appropriate to the meeting of one particular Division. There was an increasing tendency for problems to arise which required consideration of aspects covered by more than one Division and the cooperation of experts specializing in different fields. The reference of such problems from one Division to another had often, in the past, resulted in delays and conflicting recommendations. On the other hand problems of a more specific character were sometimes encountered for which a Division Meeting was unwieldy and which could be solved only by the concentration of specialists upon the particular problem.[132]

C. *Special Meetings*

The concept of Special Meetings was introduced to cover cases where an agenda of a technical meeting was ". . . of a limited scope relating to a particular subject within one or more technical fields."[133] This should not be interpreted to mean joint meetings of two or more Divisions.[134]

---

[129] First and Fifth Assembly Resolutions A1-24 and A5-4, ICAO Doc 7670, p. 21 and p. 156.

[130] Seventh Assembly, Resolution A7-7, ICAO Doc 7670, p. 207.

[131] Tenth Assembly, Resolution A10-15, ICAO A10-WP/148, p. 9.

[132] ICAO Doc 7689 (May 1956), Part I, p. 4.

[133] Ibid.

[134] ICAO AN-WP/MIN, V-29 (27/11/50), paragraph 4, p. 236. See also Assembly Resolution A4-11, ICAO Doc 7670, p. 136.

Although the Special Meeting employs specialists of two or more Divisions, the specialists do not owe any "allegiance," so to speak, to the Divisions specializing in their respective fields. Rather, they confer on a different organizational basis.

A Special Meeting would be convened when the subject is limited but approachable from more than one angle. A complete study of the subject and its different aspects would require its examination by different groups of specialists, in order to provide an all-around coverage of the problem. Therefore, the solution expected from a Special Meeting is a comprehensive one.

Notwithstanding the fact that, technically, a number of Divisions can undertake the study of composite technical subjects, experience has indicated that resort to such a course is not profitable.[135]

The technical Special Meeting should not be confused with a regional Special Meeting. The same term is used, on a regional basis, to describe a limited regional meeting convened to deal with a specific problem existing within the region and requiring urgent action.[136] A technical Special Meeting, like a Division meeting, deals only with worldwide problems.

D. *The Air Navigation Conference*

The Air Navigation Conference concept marks a further evolution of the Special Meting, its creation promoted by virtue of the same reason that dictated the establishment of Special Meetings. Like the Special Meeting, the Air Navigation Conference is a Division type meeting.

By definition, the Air Navigation Conference is a meeting which ". . . will normally be convened if the agenda indicates a number of inter-related problems falling within more than one technical field. . . ."[137]

For further clarification, a comparision with the Special Meeting concept is worthwhile. The Special Meeting, as indicated above, deals with a particular subject, while the Conference deals with a wider range of subjects. Their common element is that both types of meetings deal with subjects requiring the attention of more than one kind of specialist.

Because of the wider range of problems on its agenda, the Conference is a technical meeting with the largest representation of a senior nature.[138] This factor makes the Conference very effective. The Commission observed that ". . . conferences would prove to be more efficient than divisional meetings without increase in cost, one reason

---

[135] Fourth Assembly, Resolution A4-11, ICAO Doc 7670, p. 136.
[136] ICAO AN-WP/MIN, XIV-3(19/10/53), paragraph 5, and Resolution A7-11, paragraph 6, ICAO Doc 7670, p. 210.
[137] ICAO Doc 7689(May 1956), p. 4.
[138] ICAO AN-WP/MIN, XII-4(4/2/53), p. 12.

being that there would be increased representation from smaller States."[139]

The Commission seemingly attributed more importance to Conferences than to any other technical meeting, holding the view that it could not reject recommendations emanating from an Air Navigation Conference, although it might interpret them.[140]

At one point, the view was voiced at the Council that the Conference concept ". . . was being superimposed on the old Divisional system."[141] This, however, was not the intention in evolving the Conference concept, as the Assembly has made clear.[142]

E. *Panels*

Panels, although not in the category of technical meetings, are another device for the finding of solutions to air navigation problems. The Panel was devised to deal with particular problems requiring study by a group of highly specialized experts.

The following lines summarize the advantages of panels and the functions they fulfill:

> The device of panels of experts appears to offer a very convenient and comparatively economical means of providing for the early consideration and assessment of future problems before they become acute and permits any State able and desiring to participate to be in at the beginning. Panels, however, are designed to accomplish the initial groundwork for later formal meetings and are not specifically directed towards the wide exchange of views.[143]

The Commission holds wide powers with respect to panels. It exercises exclusive control over them, having authority:

> 2.1 To establish a Panel although Council should be notified when the ANC has decided to establish a panel.
>
> 2.2 To determine its terms of reference, including its scope and manner of operation and to give directives as necessary (C-XXII-4).
>
> 2.3 To approve the Agenda for meetings of the Panel, if any (C-XXII-4).
>
> 2.4 To convene, and to determine the date of a Panel meeting subject to integration with the Meeting Program of the Organization made in consultation with the Secretary General.
>
> 2.5 To establish the place of meeting.
>
> 2.6 To examine the recommendations emanating from the Panel with a view to:
>
> (a) determining those upon which Council has not delegated

---

[139] Ibid., paragraph 6.
[140] ICAO AN-WP/MIN, XIV-22(3/12/53), paragraph 22, p. 100.
[141] ICAO Doc 7390-4, C/861-4(5/8/53), paragraph 50, p. 54.
[142] Resolution A10-15, supra p. 54.
[143] ICAO A10-WP/15, TE/1(20/3/56), paragraph 28.2, p. 12.

authority to the Air Navigation Commission to act and proposing action accordingly (C-XXII-4), and

(b) initiating and/or completing action on the remainder.[144]

As evident from the above quoted provisions, the Commission has, with respect to panels, powers which it does not entertain with respect to technical meetings. The Commission does not have to effect action with regard to Panels by the exercise of advisory powers but can take direct action. Furthermore, the Commission is continuously informed by the secretary of the Panel of the progress made by the Panel.[145]

The Commission did not promulgate ". . . any rigid rules to govern the establishment and functioning of panels, believing that adequate freedom in devising the means and methods for a study of a given problem must be preserved."[146]

Participation in panels, as in technical meetings, is open to all contracting States. Although the type of expert required on the Panel is specified by the Commission in the State Letter announcing the establishment of a panel, it is completely within the discretion of the appointing State to choose the expert.[147] The fact that participation in a panel is thus open does not necessarily make it a body with extensive representation. Panels usually consist of a small number of experts of very high calibre, because not all the States can contribute experts competent enough to deal with the highly specialized problems.[148] In the case of panels, the limited representation is a blessing.

The Panel is very often utilized for preparatory work on highly specialized problems prior to a convening of a technical meeting.[149] Thus utilization of panels greatly contributes to the efficiency of the work of technical meetings and also saves an appreciable amount of time.

The initial work of a panel is normally carried out by correspondence, with a member of the Secretariat acting as rapporteur.[150] The convening of a panel is not always required, but when a panel reaches the point at which it deems a meeting necessary, it proposes such a step to the Commission. If, in the opinion of the Commission, a meeting is justified, the Panel is convened.[151]

The Panel, like technical meetings, reports to the Commission, and normally the latter will submit such a report to States for comment. The processing of panel reports is handled in very much the same way as reports of technical meetings. The organization and conduct of panels are not governed by the Directives to ICAO Technical

---

[144] ICAO C-WP/2040, Appendix "A," as approved by the Council on November 22, 1955 (C-XXVI-12). See A.N.C. Procedural Documents (Montreal 1956), p. III-1.
[145] ICAO AN-WP/MIN, XIX-7(16/6/55), paragraph 13, p. 35.
[146] ICAO Doc 7490-4, C/873-4(5/10/54), paragraph 31, p. 48.
[147] Ibid.
[148] Ibid.
[149] ICAO Doc 7255-20, C/840-20, (9/5/52), paragraph 69, p. 276.
[150] ICAO Doc 7490-4, C/873-4(5/10/54), paragraph 31, p. 48.
[151] ICAO Doc 7689(May 1956), Part I, p. 4.

Meetings, but its reports must conform with the regulations governing reports of technical meetings.[152]

V. The Air Navigation Regions

A. *Regional Organization*

The work of the ICAO on a regional level ranks as one of its most important activities. Regional organization, that is, the grouping of contracting States by regions, was established in view of the fact that not all aviation problems are worldwide. Horizontal organization of this kind was believed essential to facilitate uniformity in international aviation, and whenever such uniformity could not be achieved, planning within the region would promote such aims. In effect, regional organization is a decentralization of the processing of air navigation matters on the basis of geographical peculiarity. At the same time, the Headquarters of the ICAO coordinate regional activities with a view to gradually eliminating the difference between the various regions.

This work is carried out by regional Air Navigation Meetings which formulate a Regional Plan to be implemented by the States in the area concerned. The administrative nucleus of the region is the Regional Office.

The vast importance of regional meetings was recognized in the days of PICAO, the Resolution of the Interim Assembly reading as follows: ". . . the Assembly considers that regional meetings are an essential function of PICAO in facilitating the widespread acceptance of uniform standards, practices and procedures in . . . air navigation activities. . . ."[153]

The Convention does not mention regional organization, but empowers the Council to ". . . create subordinate air transport commissions on a regional or other basis and define groups of states or airlines with or through which it may deal to facilitate the carrying out of the aims of this Convention."[154]

Although no provisions of the Convention categorically provide for the establishment of regional organization, this was very much in the minds of those participating in the Chicago Conference in 1944. The Canadian draft Convention on International Aviation went as far as providing for the establishment of Regional Air Councils.[155]

The Council, in establishing the regions, exercised its power to ". . . define groups of states . . . with or through which it may deal to facilitate the carrying out of the aims of this Convention."[156]

---

[152] Ibid.

[153] Interim Assembly Resolution Int-3 as reproduced in ICAO A10-WP/16, TE/2(20/3/56), p. 3.

[154] Chicago Convention, Article 55(a).

[155] Chicago Conference Doc 50, Proceedings of the International Civil Aviation Conference, The Department of State Publication 2820, Volume I, 577.

[156] Chicago Convention, Article 55(a).

Initially, ten regions were established, the number reduced to eight in the years 1951-1952. The existing regions are the following:

1. North Atlantic
2. European-Mediterranean
3. Middle East
4. Caribbean
5. South East Asia
6. Pacific
7. South America/South Atlantic
8. Africa-Indian Ocean.[157]

In practice, regional organization divided the globe ". . . into areas within which the international air routes are reasonably well defined and the problems distinct."[158]

Since the subject of this paper is the Air Navigation Commission, it would be proper to discuss within it the Regional Air Navigation Meeting, the Regional Plan, the Regional Offices and their relation to the Commission. Regional technical legislation will be briefly examined in the chapter dealing with the technical regulatory material of the ICAO.

B. *The Regional Air Navigation Meeting*

A Regional Air Navigation Meeting is a technical meeting convened on a regional basis. It is an advisory body[159] which cannot take definitive action, but may make recommendations.

A Regional Air Navigation Meeting is convened when conditions in a region, with respect to air navigation, are such as not to enable States in the region to observe approved Standards and Recommended Practices and Procedures, or when specific conditions in the region require worldwide regulations to be supplemented by regional regulatory material.

Normally, the major factor in non-compliance with Annexes is the inadequacy of States to provide proper air navigation facilities. The reasons for this may be economical or technical, for instance, shortage in trained personnel capable of handling facilities. The Regional Air Navigation Meetings try to remedy such state of affairs by developing a Regional Plan to be implemented by the States in the region.[160] It should be noted, however, that the Assembly has directed Regional Air Navigation Meetings not only to formulate Regional Plans but also to check their implementation.[161]

The participation in Regional Air Navigation Meetings is open to the contracting States invited by the Council.[162] All other contracting States may participate only as observers[163] without the right of vot-

---

157 ICAO A10-WP/17, TE/3(20/3/56), p. 1.
158 Ibid.
159 Directives for Regional Air Navigation Meetings, 2nd edition, ICAO Doc 7214-C/831/1(11/11/52), p. 5.
160 For discussion of Regional Plans see next section.
161 Fourth Assembly Recommendation A4-Rec.3, ICAO Doc 7670, p. 151.
162 ICAO Doc 7214-C/831/1(11/11/52), p. 5.
163 ICAO Doc 6763, C/779(18/5/49), paragraph 28, p. 6.

ing. The Council, in inviting contracting States to attend a Regional Air Navigation Meeting as members, normally bases its decisions on considerations such as those of States having territory in the region, or intending to operate or operating in the region, or States providing facilities for international air navigation in the region.[164] The Council has delegated the authority to invite States to its President.[165]

The Air Navigation Regional Meeting formally reports to the Council.[166] The Council, however, has authorized the Commission to review the ". . . recommendations emanating from the meeting. . . ."[167] The Commission then submits those parts of the regional report requiring action by the Council accompanied by its own recommendations.[168]

The discretion of Regional Air Navigation Meetings in formulating Regional Plans is subject to three considerations:

(a) Geographical — recommendations of the Meeting may refer only to States within the region;[169]

(b) Regulatory — recommendations of the Meeting must conform with Standards and Recommended Practices and Procedures;[170] and

(c) Organizational — some Council members hold the view that Regional Air Navigation Meetings cannot reject decisions of the Council.[171]

In order not to hamper discussion in Regional Air Navigation Meetings and to promote exchange of frank views, the following provision was included in the "Directives to Regional Air Navigation Meetings":

> When recommendations require a Member to provide, develop or maintain and operate air navigation facilities, the acquiescence of the representative at the meeting shall not be considered binding on the Member. A recommendation shall only be considered a commitment after approval by Council and acceptance by the Member.[172]

The States participating in a Regional Air Navigation Meeting are under statutory obligation to contribute, in so far as they find it practicable, to the promotion of air navigation by virtue of Article 28 of the Convention. Paragraph (a) of this Article refers to Standards and Recommended Practices and Procedures, while paragraphs (b) and (c) can easily be interpreted as referring also to recommendations of Regional Air Navigation Meetings adopted by Council. The adoption by Council of such recommendations might be considered action by the Council under Article 69 of the Convention.

---

[164] ICAO Doc 6655, C/758(21/3/49), p. 7. See also C-Draft Minutes XIV(2) (15/10/51), paragraph 60, p. 20.
[165] Ibid.
[166] ICAO Doc 7214-C/831/1(11/11/52), Part I, Section XIII.
[167] ICAO C-WP/2040, Appendix "A," paragraph 3.5.
[168] Ibid.
[169] ICAO A10-WP/17, TE/3(20/3/56), p. 3.
[170] ICAO Doc 7214-C/831(11/11/52), Part II, paragraph 2.
[171] ICAO Doc 5704, C/675(24/6/48), paragraph 48, p. 9.
[172] ICAO Doc 7214-C/831(11/11/52), Part II, paragraph 4.3.

The Regional Air Navigation Meeting is a more composite enterprise than the Division type meeting, having to face a variety of technical problems existing in the region. The following outline constitutes the normal structure for a full scale Regional Air Navigation Meeting:

1. The plenary meeting.
2. A general Committee.
3. Subcommittee (1).
4. A steering Committee.
5. AGA Committee.
6. Air Traffic Control Committee.
7. Communications Committee.
8. Meteorology Committee.
9. SAR Committee.[173]

It should be noted that not all Regional Air Navigation Meetings follow this structure, some of them not being full scale meetings. In other cases additional committees, or committees other than those listed above, may be established. The Council has authority to instruct the general Committee to establish specific committees.[174]

From the structural point of view, Subcommittee (1) is the most interesting body. It was devised pursuant to an Assembly resolution.[175] By the terms of this Resolution, Subcommittee (1) has a higher status than the technical committees, its terms of reference being:

> ... (a) to supply a coordinated plan for operational and technical requirements to specialist committees for their consideration and development in detail;
>
> (b) to deal with matters that cannot adequately be dealt with by any specialist technical committee alone;
>
> (c) to supply advice to technical committees on operational and navigational matters during the meeting;
>
> (d) to ensure that the documents reaching the General Committee conform to a coordinated regional plan.[176]

Another Assembly resolution[177] brought about a shift of emphasis which consequently resulted in a change of structure of Regional Air Navigation Meetings. The traditional Meeting with all its committees became less frequent, since it was found more appropriate to convene special Regional Air Navigation Meetings. The same factors that contributed to a change in the Division type meetings affected the concept of full scale Regional Air Navigation Meetings as well. The Assembly expressed this change in policy giving the following reasons: ". . . the standard current form of agenda and structure of major regional air

---

[173] ICAO Doc 7214-C/831/1, Section IX, p. 7.
[174] Ibid., p. 8.
[175] First Assembly Resolution A1-36, ICAO Doc 7670, p. 29.
[176] Ibid.
[177] Seventh Assembly Resolution A7-11, ICAO Doc 7670, p. 209.

navigation meetings were developed to provide for the initial preparation of regional plans . . . regional plans are now approaching a substantial measure of stability. . . ."[178] Hence the Assembly directed, because of reasons of efficiency and economy, that:

> . . . the Council continue to give emphasis to improving the efficiency of the regional planning activities of the Organization by:
>
> (i) ensuring that the agenda of regional air navigation meetings is established on the basis of known or anticipated problems in the region;
>
> (ii) ensuring that the need for, and the composition of, a regional air navigation meeting be determined in the light of the agenda so established; . . .
>
> (iv) arranging to hold meetings of limited character. . . .[179]

This means that the scope of the meetings and of their committees would depend on the range of existing and anticipated problems. This arrangement makes Regional Air Navigation Meetings structurally very flexible, allowing them to vary from region to region and from meeting to meeting.

A further organizational development involved the convening of special meetings to deal with problems affecting more than one region.[180] These problems are not worldwide, but are similar in more than one region. In such cases a joint meeting would prevent unnecessary duplication of work and promote uniform solutions.

The powers and functions of the Commission with respect to Regional Air Navigation Meetings are not as wide as in the case of Division type meetings, but the Commission nevertheless retains a good deal of control. The doctrine of "inviolability" practiced in the days of the Air Navigation Committee with regard to Divisional reports, is still traceable in the Commission's attitude to Regional Air Navigation Meeting reports.

The Commission can determine the scope and structure of a Regional Air Navigation Meeting through its power to approve the agenda of the Meeting.[181] The agenda approved by the Commission is usually the final one, with the following qualification: "Subject to the agreement of two-thirds of the Members present, the General Committee may add items to the agenda of the committees but the items shall be restricted to the accomplishment of the purpose of the meeting."[182] As in the case of Division type meetings, the Commission initially draws up a provisional agenda. Since 1952, the Commission

---

[178] Ibid., preamble.

[179] Tenth Assembly Resolution A10-22, ICAO A10-WP/148, P/15 (16/7/56), paragraph (2) (b), p. 16. See also Resolution A7-11, ICAO Doc 7670, p. 209.

[180] Resolution A10-22, paragraph (2) (b) (v).

[181] ICAO Doc 7162(revised), C/852(4/7/51), paragraph 1.3.4.

[182] ICAO Doc 7214-C/831/1(11/11/52), Section X, p. 8. A parallel provision exists with respect to Technical Meetings: see Doc 7689, paragraph 6, p. 12. In neither case does this qualification restrict the power of the Commission, since these meetings may not omit agenda items.

has normally submitted the provisional agenda to States for comments, and only after reviewing such comments has drawn up the final agenda of the Regional Air Navigation Meeting.

Additional functions of the Commission include the approval of the geographical area to be covered by the Meeting, issuing instructions regarding the documentation needed for the Meeting, and issuing directives ". . . for the conduct of the meeting additional to the standing directives approved by the Council."[183]

The need for and convening of a Regional Air Navigation Meeting are largely dependent upon the consideration of the Commission. Although the Commission is not authorized to convene any of the technical meetings, its terms of reference provide that it "Advise the Council on the need for regional and special meetings on the development and coordination of air navigation services, recommend times and places for such meetings; and approve their agenda and plans for documentation;"[184] The link between Regional Air Navigation Meetings and the Commission becomes even more significant in the matter of the Meeting's recommendations. Although the Meeting is under duty to submit its report to the Council,[185] it is the Commission that examines it prior to deliberations in the Council. The Commission may take action on the report only with respect to those parts on which it was authorized to do so by Council.[186] The Commission, however, cannot change recommendations but may only express its attitude towards them.[187] The Commission functions in an advisory capacity, very much in the same way as in the case of Divisional reports.

In reviewing Regional Air Navigation Meeting reports, the Commission applies three principles as criteria for its recommendations. These principles are:

1. Coordination of the recommendations of Meetings of different regions.[188] The philosophy underlying this approach is that one of the aims of the Organization is uniformity in air navigation. It is understandable, however, that complete uniformity is unattainable at present, as is indicated by the very existence of regions.

2. Determination of the action to be taken on the recommendations. The Commission then advises the Council accordingly.[189]

3. Clarification of ambiguous recommendations.[190] This is normally done by contracting States that participated in the Regional Air Navigation Meeting.

The reports of the Meeting's committees, reviewed by Subcommittee (1) and approved by the General Committee,[191] make up the final

---

183 ICAO C-WP/2040, Appendix "A," paragraph 3, as amended by Council.
184 ICAO Doc 7162(revised), C/825(4/7/51), paragraph 1.3.4.
185 ICAO Doc 7214-C/831/1(11/11/52), Section XIII, p. 10.
186 ICAO C-WP/2040, Appendix "A," paragraph 3.5.
187 ICAO AN-WP/MIN, XI-15(3/11/52), paragraph 22, p. 69.
188 ICAO Doc 6913-2, C/802-2(14/10/49), paragraph 18, p. 27.
189 Ibid.
190 Ibid.
191 ICAO Doc 7214-C831/1(11/11/52), paragraph 6.2, p. 14.

report of the Meeting. Changes, however, are planned so as to make the final report a consolidated one and not merely a compilation of the committees' reports.[192]

Although the Regional Air Navigation Meeting is primarily concerned with exclusively regional problems, its contribution to the worldwide organization of air navigation is of great importance. The procedures recommended by Regional Air Navigation Meetings often lead to the amendment of Annexes by indicating the inadequacy of the latter.[193] Regional procedures have also a definite effect on the worldwide Procedures for Air Navigation Services (PANS), the Supplementary Procedures (SUPPS), in effect, being ". . . regional additions to PANS."[194] Some of these regional procedures, with the elimination of differences between the regions, are gradually being evolved into worldwide PANS.[195]

Regional meetings organized for the purpose of implementation, and of a limited scope, may also be initiated and convened by the affected States. The Tenth Assembly was strongly in favor of such measures, resolving:

> That the holding of meetings, whether initiated by contracting States or convened by the Council, which are confined to implementation problems affecting two or more States, should be encouraged where no other effective and timely means are available. . . .[196]

C. *The Regional Offices*

The Regional Offices are, in effect, agencies of the Organization in the regions. The functions of the Regional Offices were broadly defined as follows:

> . . . the activities of the Regional Offices should be directed primarily towards regional technical matters in the field of air navigation; . . . the Council be authorized to agree . . . to the use of Regional Offices for other purposes, in so far as this would speed the study of regional questions and facilitate working cooperation between the Contracting States.[197]

The Assembly itself expanded the functions of Regional Offices by providing "That the Regional Offices should participate in the information program to the extent practicable without interference with the performance of their primary duties connected with air navigation matters. . . ."[198]

A more specific function of the Regional Offices was emphasized by the Assembly in another resolution, instructing the Council to further develop ". . . the technical resources of the Regional Offices

---

[192] ICAO A10-WP/17, TE/3 (20/3/56), paragraph 12, p. 3.
[193] ICAO C-WP/673 (7/6/50), Appendix "A," p. 7.
[194] ICAO Doc 6913-2 (14/10/49), Annex "A," paragraph 3, p. 45.
[195] ICAO C-WP/673 (7/6/50), Appendix "A," p. 7.
[196] Tenth Assembly Resolution A10-24, ICAO A10-WP/148, (P/15) (16/7/56), clause (5), p. 18.
[197] First Assembly Resolution A1-16, ICAO Doc 7670(p. 16.
[198] First Assembly Resolution A1-15, ICAO Doc 7670, p. 16.

with the object of giving States greater assistance with their implementation problems. . . ."[199] A later resolution of the Assembly, superseding the above resolution, re-emphasized the primary functions of Regional Offices to assist States in the region to solve their implementation problems.[200] The implication in these resolutions is that the functions of the Regional Offices are primarily technical. Not all members of the Commission and of the Council, however, were in complete agreement as to the exclusiveness of these functions.[201]

The representative of the United States on the Commission pointed out that full use of Regional Offices could be achieved only following their adequate staffing and organization.[202] Economical considerations and tendencies to centralize secretarial work were detrimental factors to the full utilization of Regional Offices. The Assembly recognized the necessity for a revision of policy and provided:

> (b) That the staff of the Regional Offices . . . should be enabled to carry out more frequent visits of adequate duration to States, when such visits are necessary or requested, to assist them with their implementation problems;
>
> (c) That the resources of . . . the Regional Offices . . . should be adequately distributed and strengthened. . . .[203]

The Regional Offices, operated by the Secretariat, receive their directions from the Secretary General.[204] In matters of policy, however, the decisions are made by the Commission, Council and Assembly, and not by the Secretariat.

Hence, the main function of Regional Offices is implementation of regulatory material and regional plans in the region. Regional Offices act as technical advisors to States in the region to which they are accredited. Within the broader function of assisting States in the implementation of regulatory material, the Regional Offices concentrate on the implementation of regulations concerning facilities, that is, technical regional plans.[205] Though it is the function of Regional Offices to assist States in the implementation of worldwide regulatory material, such as Standards and PANS,[206] ". . . the task of implementing regional plans for air navigation facilities and services should receive priority. . . ."[207] This approach conforms to the general approach of the Organization and its policy that technical legislation had come to a point of stabilization and that the accent should be put on implementation. The same trend is also evident with respect to Annexes.

---

[199] Seventh Assembly Resolution A7-12, ICAO Doc 7670, p. 211.
[200] Tenth Assembly Resolution A10-26, ICAO A10-WP/148, P/15 (16/7/56), clause (2) (a), p. 20.
[201] ICAO AN-WP/MIN, XV-6(5/3/54), p. 26.
[202] Ibid.
[203] Tenth Assembly Resolution A10-26, clause (2).
[204] ICAO AN-WP/MIN, XVIII-31(28/4/55), para. 3, p. 2.
[205] ICAO A10-WP/18, TE/4(20/3/56), para. 3, p. 2.
[206] ICAO A10-WP/148, P/15(16/7/56), Resolution A10-27, p. 21.
[207] Seventh Assembly Resolution A7-12, preamble, ICAO Doc 7670, p. 211. This Resolution was superseded by Tenth Assembly Resolution A10-26, ICAO A10-WP/148, P/15(16/7/56), p. 20.

At present, five Regional Offices are in existence. The areas covered by them do not coincide with the air navigation regions. The Regional Offices and their respective areas are as follows:

> European and African Office, Paris—European-Mediterranean and North Atlantic
> Middle East Office, Cairo—Africa-Indian Ocean and Middle East
> South American Office, Lima—South America/South Atlantic
> Far East and Pacific Office, Bangkok—South East Asia and Pacific
> North American and Caribbean Office, Montreal—Caribbean.[208]

The above division represents areas to which the Regional Offices are assigned for follow-up action and implementation of regional plans.

A Regional Office, in taking follow-up action on regional plans, acts in many cases as an agent of another Office. The following is an illustration of such a case:

> Paris Office, for example, may consult with the States to which it is accredited on matters relating to any of the eight regional plans, but except in the case of the EUM and NAT Regional Plans, the results of such consultation will be passed to the Office primarily responsible for the regional plan concerned. Similarly the other four Regional Offices may deal with the States to which they are accredited on matters relating to any or all of the regional plans.[209]

The initial reports of cases of non-implementation and serious deficiencies originate in the Regional Offices and constitute an important source for the reviews of the Commission under the "Program for the Isolation and Elimination of Serious Deficiencies in Implementation of Regional Plans."[210] Whenever a "deficiency" is found by the Commission not to be serious enough to warrant special attention by the Secretary General or by the Council, it is normally referred to Regional Offices and brought to the attention of the States concerned. The study of deficiencies affects worldwide regulations as the following passage indicates:

> . . . the Council should continue, and should make every effort to improve the effectiveness of, the program for the isolation and elimination of serious deficiencies by:
>
> (i) studying the deficiency reports with a view towards developing improvements in the Standards and Recommended Practices. . . .[211]

D. *The Regional Plan*

A Regional Plan is a plan developed by Regional Air Navigation Meetings and approved by the Council, listing the requirements in the region necessary to ensure safe, regular and efficient air navigation service and facilities.

---

[208] ICAO A10-WP/18, TE/4(20/3/56), paragraph 4, p. 2.
[209] Ibid.
[210] ICAO Doc 7361-9, C/858-9(26/3/53), Directives, para. 2.3.
[211] ICAO A10-WP/148, P/15(16/7/56), Resolution A10-25, p. 19.

Regional plans may be broadly divided into those parts that deal with facilities and services in the region, and those dealing with Supplementary Procedures (SUPPS). The Commission, however, agreed that the SUPPS are not a part of regional plans, since the latter are largely concerned with facilities as distinct from procedures.[212] This lack of clarity in terminology does not create practical difficulties, since the amendment of SUPPS is governed by one set of rules, and those of Regional Plans by another, which is published separately. The SUPPS will be discussed separately in the chapter dealing with the Organization's technical regulatory material.

Regional Plans must be in conformity with Standards and Recommended Practices and Procedures,[213] and their purpose is to serve international air navigation within the region. However, the developments and improvements in air navigation facilities in the region have a definite effect upon the development of Standards and Recommended Practices and Procedures. Adversely, the latter provide the framework into which the Regional Plans must fit. The Assembly recognized this relationship in the following clause, resolving:

> That the effect of changing requirements and of improved techniques on the Standards, Recommended Practices and Procedures be kept under review, and that these be amended as necessary to ensure, *inter alia*, that they provide a sound basis for the development of regional plans and the provision of facilities and services.[214]

The Regional Plan recommendations provide governments in the region with the necessary guidance to assure ". . . that facilities and services furnished in accordance with the plan will form with those of other States an integrated system and will be adequate for the foreseeable future."[215]

The integration and coordination of air navigation facilities, important as these are, are not the prime objects at which the Regional Plan aims. It is rather a remedial plan designed to correct inadequacies or absence of facilities required for safe, regular and efficient air navigation within the region. The corrective measures recommended by the Regional Plan serve the cause of uniformity as well in international air navigation on a global scale.

Regional Plans constitute the major part of Regional Air Navigation Meeting reports, and as such are reviewed by the Commission. Then, accompanied by the Commission's recommendations, they are submitted to the Council for approval. Once a Regional Plan is approved by the Council, it assumes the status of a Council recommendation under Article 69 of the Chicago Convention. States are not even required to report non-compliance with the Regional Plan. Thus a heavier burden of following up the implementation of regional plans

---

[212] ICAO AN-WP/MIN, XIX-2(20/5/55), para. 20, p. 8.
[213] ICAO Doc 7214-C/831/1(11/11/52), Part II, para. 2 and 3.1.
[214] Tenth Assembly Resolution A10-16, ICAO A10-WP/148, P/15 (16/7/56), clause (3), p. 11.
[215] ICAO A10-WP/17, TE/3(20/3/56), para. 2, p. 2.

falls on the shoulders of the Organization, especially the Regional Offices.

The Regional Plans, requiring frequent modification, made it necessary to evolve a flexible method for their amendment. It could not be left to Regional Air Navigation Meetings, since such an approach would have made modification of the Regional Plans a difficult task, dependent upon the convening of Regional Air Navigation Meetings. Consequently, a "Procedure for the Amendment of the Facilities Portion of Approved Regional Plans"[216] was introduced. The Program provided for amendments by means of correspondence instead of meetings, with a limitation on the extent to which the amendments could go, in that they might not alter the basic plans or decrease their stability.[217] Resolution A7-11 confined regional plan amendments to ". . . modifications such as those necessitated by changes in airline route pattern, major changes arising from the introduction of new equipment and techniques, and the correction of errors. . . ."[218] The Program incorporates this provision. The Council added to this that ". . . it may be necessary to amend specific details in the regional plan, in order that the plan may continue to reflect the requirements for facilities and services."[219] Resolution A7-11 was superseded by Resolution A10-22, which did not restate the restrictions quoted above on the amendment of Regional Plans, but instructed the Council to continue to encourage ". . . the use of correspondence as a method of keeping regional plans current. . . ."[220] The fact that the Assembly, in the preamble of the same Resolution, recognized that ". . . the use of correspondence as a means of keeping regional plans current has proved successful;"[221] makes plausible the presumption that the limitations on amendments included in Resolution A7-11 are still applicable. However, for the sake of clarity, a restatement of policy in this matter would have been beneficial.

Orderly implementation of Regional Plans calls for some measure of stability in the plans. The Assembly, recognizing this need, resolved "That the effect of changing requirements on regional plans be kept under review, and that these plans be amended when it becomes apparent that they are not well suited to established operational needs. . . ."[222]

The procedure for effecting amendments to Regional Plans under the Program calls for admission of properly documented amendments to a Regional Office accredited to the proposing contracting State. The Regional Office transmits the proposal for amendment to the Secretary General, and the latter circulates the proposed amendment to all the

---

[216] Approved by the Council on 10 May 1956 (XXVIII-6), see the ICAO A.N.C. Procedural Documents (Montreal 1956), p. IV-1.

[217] Ibid.

[218] Seventh Assembly Resolution A7-11, clause (2), ICAO Doc 7670, p. 210.

[219] Supra, footnote 216.

[220] ICAO A10-WP/148, P/15(16/7/56), p. 15.

[221] Tenth Assembly Resolution A10-22, preamble, ICAO A10-WP/148, P/15 (16/7/56), p. 16.

[222] Tenth Assembly Resolution A10-16, ICAO A10-WP/148, P/15(16/7/56), clause (2), p. 10.

States in the region for comment. The Secretary General, however, is not required to circulate the proposal to States that are not affected by it. He may also refrain from circulating it in a case where ". . . the proposed amendment conflicts with established ICAO policy, or . . . raises questions which the Secretary General considers should be brought to the attention of the Air Navigation Commission. . . ."[223] The action to be taken in the latter cases is determined by the Commission. If a proposed amendment does not encounter opposition, the President of the Council is authorized to approve the amendment on behalf of the Council. If opposition from contracting States is encountered, the Secretary General consults further with the States concerned, and if the objection is not then removed, submits the proposed amendment to the Commission. The Commission, if it considers it acceptable, makes recommendations accordingly. Proposals submitted by IATA[224] are treated in the same manner, except that, before circulating them to all interested States, the Secretary General ascertains that the proposal is adequately supported by the State or States most affected by it. Lack of such support again entails the Commission's consideration and decision. The Secretary General himself may also initiate proposed amendments which are treated in the same manner as IATA proposals.[225]

Where amendments to a Regional Plan cannot be effected under the above procedure, the most practical solution is obtained by:

> . . . arranging to hold meetings of limited character more frequently than in the past to deal with specific subjects, particularly those requiring urgent solution, when such action will assist in maintaining regional plans in a current condition. . . .[226]

The broadest amendments to Regional Plans are those resulting from full scale Regional Air Navigation Meetings.[227]

A far more difficult problem concerns the implementation of Regional Plans. Article 28 of the Chicago Convention enumerates the duties which refer also to Regional Plans, reading:

> Each contracting State undertakes, so far as it may find practicable, to:
>
> (a) Provide, in its territory, airports, radio services, meteorological services, and other air navigation facilities to facilitate international air navigation, in accordance with the standards and practices recommended or established from time to time, pursuant to this Convention. . . .[228]

Regional Plans, although not Standards and Recommended Practices in the sense of Annex material, are, nevertheless, Council recommendations under Article 69 of the Convention. Unlike Annexes, Regional Plans do not impose upon States the duty of reporting non-compliance.

---

[223] ICAO A.N.C. Procedural Documents, p. IV-1.
[224] International Air Transport Association.
[225] ICAO A.N.C. Procedural Documents, pp. IV-1 and IV-2.
[226] Tenth Assembly Resolution A10-22, clause (2) (b) (iv).
[227] See Recommendation A4-Rec.3, ICAO Doc 7670, p. 151.
[228] Chicago Convention, Article 28(a).

Hence a method had to be evolved whereby cases of non-compliance with Regional Plans would be recorded and action taken thereupon. The "Program for the Isolation and Elimination of Serious Deficiencies in Implementation of Regional Plans"[229] fulfills this task. Non-implementation of Regional Plans generally occurs ". . . in States where economic and technical problems deter action by the States. . . ."[230] More specifically, the factors impeding satisfactory implementation of Regional Plans are:

> . . . (a) lack of effective machinery within a State for administering civil aviation;
>
> (b) lack of funds;
>
> (c) lack of trained personnel, both at the directing and operational levels.[231]

The above deterent factors are usually to be found in underdeveloped States.

The above Program makes the Secretary General responsible for the study of the state of implementation of Regional Plans, including the isolation of serious deficiencies. In conducting his studies, the Secretary General is guided by the Commission. Action by the Secretary General is, however, not limited only to the conduct of such studies. He may also act in an executive capacity, being entrusted with the carrying out of Council's directives on the elimination of serious deficiencies recognized by the Council. The mechanics of the Program are relatively simple and efficient. The Secretary General reviews annually the serious deficiencies in the air navigation regions. In collecting his information, the Secretary General is assisted by reports from States in the region, IATA and other international organizations, and, of course, the Regional Offices. The Secretary General utilizes all legitimate sources of information, including Regional Air Navigation Meetings. On the basis of all information collected and processed, the Secretary General submits to the Commission studies of the regions, listing deficiencies. The Commission considers these studies and lists in a report to the Council those deficiencies which it regards as serious and thus requiring further action. Once this report is approved by the Council, the Secretary General establishes contact with the affected States through State Letters, liaison with the States' representatives to ICAO, or follow-up trips from ICAO headquarters or from ICAO Regional Offices. The Secretary General assumes an even more decisive role subsequently, in submitting concrete recommendations to the Council for measures to correct specific deficiencies. As a complementary measure, the Secretary General submits to the Commission an annual progress report for each region, showing the extent and effect of remedial actions taken.[232]

---

[229] ICAO Doc 7361-9, C/858-9(26/3/53), Appendix "A," p. 111.
[230] Tenth Assembly Resolution A10-24, preamble, ICAO A10-WP/148, P/15 (16/7/56), p. 18.
[231] ICAO A10-WP/18, TE/4(20/3/56), para. 24, p. 7.
[232] ICAO Doc 7361-9(open), C/858-9(26/3/53), Appendix "A."

Deficiencies which are not serious enough to warrant action by the Council are not left untouched. The Commission directs the Secretary General to emphasize them in his consultations with States, lest lack of early implementation might convert them into serious deficiencies.[233] States were also urged to take a more active role in the Program by reporting promptly any difficulties in implementation and serious deficiencies.[234]

The term "serious deficiency," in this context, must be understood as a case of non-implementation of a specific requirement included in the Regional Plan. It should be noted, however, that the deficiency might be in the Regional Plan itself, and often study by the Secretary General discovers such a deficiency. Remedial action in such a case is not effected under the above Program. Once such an amendment is legitimately incorporated into the Regional Plan, its non-implementation is subject to the above procedure.[235]

The above measures for elimination of serious deficiencies are integrated by the Commission and the Secretary General with measures taken by Regional Air Navigation Meetings pursuant to Assembly Recommendation A4-Rec.3 instructing:

> That at future regional air navigation meetings greater emphasis should be given to the implementation of regional plans already formed, and deficiencies in the implementation of regional plans which are vital to the proper functioning of the plan should be segregated by the regional meeting and referred to Council for such special action as may be considered appropriate.[236]

Hence, the burden with respect to serious deficiencies falls primarily on the Secretary General and the Commission. The Commission has ". . . a continuing responsibility with respect to the planning and implementation of plans for the provision of air navigation facilities and services, its role being primarily that of monitor and guide."[237]

A supplementary procedure was adopted, outlining the administrative steps to be employed under the Program and clarifying the method to be employed by the Secretary General.[238] Under this procedure, States' reports concerning lack of implementation are to be submitted to the Secretary General through the Regional Offices. The Regional Offices are authorized to exercise their discretion in analyzing States' reports, determining which cases of non-implementation of Regional Plans constitute a serious deficiency and are thus eligible for consideration under the Program. The Regional Offices play their part also in taking remedial action under the direction of the Secretary General, prior to the submission of the study to the Commission. A serious

---

[233] Ibid., para. 2.10.
[234] Tenth Assembly Resolutions A10-24, clauses (3) and (4), and A10-25, clause (2) (b), A10-WP/148, P/15 (16/7/56), pp. 18-19.
[235] ICAO Doc 7361-9 (open), C/858-9 (26/3/53), Appendix "A," paragraph 2.11.
[236] Fourth Assembly Recommendation A4-Rec.3, ICAO Doc 7670, p. 151.
[237] ICAO Doc 7361-9 (Open), C/858-9 (26/3/53), Appendix "A," paragraph 1.1.
[238] ICAO Doc 7617-1 (Open), C/884-1 (13/9/53), Appendix "A."

deficiency is included in a report to the Commission only after such preliminary corrective action has failed to bear fruits.[239]

The importance of implementing Regional Plans so as to avoid serious deficiencies was emphasized by the Assembly in the following Resolution:

> (3) That when a contracting State, having explored all methods and means for implementing the regional plans with which it is concerned, pursuant to Article 28 of the Convention, experiences difficulties which hinder implementation by that State, it should report accordingly to ICAO, and with respect to those items which might become serious deficiencies if not implemented it should request assistance from ICAO;
>
> (4) That States should be urged to plan their internal implementation programs so that priority is given to those items which are of such a nature that lack of implementation will likely result in serious deficiencies. . . .[240]

An additional measure designed to secure compliance with Regional Plans is the Commission's comprehensive annual review of implementation in each region, consisting of three parts:

1. Consideration of a report on the status of implementation.

2. Consideration of a list of all reported deficiencies.

3. Consideration of a progress report on all serious deficiencies acted upon by the Council, including those eliminated.[241]

The whole approach of the Commission and the Secretary General to the problem of serious deficiencies must be realistic and practical. The studies are expected to be limited in time in order not to render the results obsolete by the time the task is completed.[242]

Should the implementation of Regional Plans encounter insurmountable difficulties, a prospective solution is provided in Articles 70, 71 and 74, which enable States to utilize economic and technical assistance from the Organization, in order to establish the required facilities and thus overcome serious deficiencies. The Assembly restated this possibility in resolving:

> (c) That the Council should continue, and should make every effort to improve the effectiveness of, the program for the isolation and elimination of serious deficiencies by:
>
> . . . (iii) employing, should the situation so require, the several means provided in Chapter XV of the Convention, as well as utilizing other available means of assisting States through the United Nations Expanded Program of Technical Assistance, technical advice and expert assistance from the Regional Offices, and the training activities of the Air Navigation Bureau.[243]

---

[239] Ibid.

[240] Tenth Assembly Resolution A10-24, ICAO A10-WP/148, P/15 (16/7/56), p. 18.

[241] ICAO Doc 7617-1(Open), C/884-1(13/9/55), Appendix "A," paragraph 5.

[242] ICAO Doc 7361-9(Open), C/858-9(26/3/53), paragraph 1.5.

[243] Tenth Assembly Resolution A10-25, ICAO A10-WP/148, P/15(16/7/56), pp. 19-20.

The systems evolved to secure implementation of Regional Plans were highly effective, but, as one report stated, ". . . it cannot be said that overall implementation is keeping pace with the development of international civil aviation. . . ."[244]

It is, therefore, evident that the Commission's powers with respect to Regional Plans are mostly of an advisory character. It is the Council which takes action wherever necessary, and Regional Plans formally gain status only after adoption by the Council. The Commission, however, exercises, within the framework of the Organization, powers which lead to internal action. It directs the Secretary General in his efforts to secure implementation of Regional Plans, and determines what is to be considered a serious deficiency in implementation and submitted as such to the Council. It should be remembered that the list of serious deficiencies acted upon by the Council is the consequence of the exercise of discretion by the Commission. The power to determine what a serious deficiency is, in the sense of making it a recommendation to the affected State, lies exclusively with the Council. Nevertheless, the role of the Commission is almost decisive.

The annual review of implementation in each region conducted by the Commission constitutes a major effort to improve air navigation and it may rightly be said that the Commission carries the bulk of the work in the promotion of air navigation in the region at all stages. It has attained the necessary degree of flexibility essential in the fast changing world of aviation, gradually developing a long-sighted policy which will anticipate changes and stabilize the regional regulatory material of air navigation.

BIBLIOGRAPHY

CONVENTIONS

Convention on International Civil Aviation. Chicago, December 7, 1944.

Interim Agreement on International Civil Aviation. Chicago, December 7, 1944.

ICAO AND PICAO DOCUMENTATION

Air Navigation Commission:

—*A.N.C. Procedural Documents.* Montreal, 1956.

—Minutes and Working Papers, 1st to 22nd Sessions, 1949-1956.

Air Navigation Committee:

—Minutes and Working Papers, 1st to 5th Sessions, 1945-1946 (PICAO), 1st to 5th Sessions, 1947-1949 (ICAO).

Assembly:

—Documents and Working Papers of the Interim Assembly (PICAO), 1946.

[244] ICAO A10-WP/18, TE/4(20/3/56), paragraph 23, p. 7.

—Documents and Working Papers of the ICAO Assembly, 1st to 10th Sessions, 1947-1956.

—*Resolutions and Recommendations of the Assembly, 1st to 9th Sessions, (1947-1955)*. Doc 7670, Montreal, 1956.

Council:

—Minutes of the Interim Council (PICAO), 2nd to 8th Sessions, 1945-1947.

—Minutes, Proceedings and Working Papers of the Council, 1st to 28th Sessions, 1947-1956.

Development and Coordination of Technical Annexes to the Convention. Doc 7215-AN/858, Montreal, 1951. (obsolete)

Directives to ICAO Technical Meetings and Rules of Procedure for Their Conduct. Doc 7689, Montreal, 1956.

Memorandum on ICAO. Montreal, 1951.

Memorandum on ICAO. Montreal, 1953.

Reports of Regional Meetings, Montreal.

Rules of Procedure and Directives for Regional Air Navigation Meetings, 2nd edition. Doc 7214-C/831/1, Montreal, 1952.

Technical Annexes to the Convention on International Civil Aviation, Montreal.

OTHER PUBLICATIONS

Bernadet, Pierre M., *L'O.A.C.I. Service Public International.* Universite de Paris, 1953. (Thesis)

Department of State, *Blueprint for World Civil Aviation.* Publication 2348, Conference Series 70, Washington, 1945.

—*International Civil Aviation 1945-1948.* Report of the Representative of the United States of America to the International Civil Aviation Organization, publication 3131, International Organization and Conference Series IV, International Civil Aviation Organization 1. Washington, 1948.

—*International Civil Aviation 1948-1949.* Second Report of the Representative of the United States of America to the International Civil Aviation Organization, publication 3629, International Organization and Conference Series IV, International Civil Aviation Organization 4. Washington, 1949.

—*International Civil Aviation 1949-1950.* Third Report of the Representative of the United States of America to the International Civil Aviation Organization, publication 3915, International Organization and Conference Series IV, International Civil Aviation Organization 5. Washington, 1950.

—*Proceedings of the International Civil Aviation Conference, Chicago, Illinois, November 1-December 7, 1944.* 2 volumes, publication 2820, International Organization and Conference Series IV, International Civil Aviation Organization 1 and 3. Washington, 1948-49.

Eckart, Jean, *L'Organisation de l'Aviation Civile Internationale.* Universite de Strasbourg. (Thesis)

Pepin, Eugene, "ICAO and the Other Agencies Dealing with Air Regulation," *Journal of Air Law and Commerce,* (Chicago, 1952), XIX(2), 152-162.

Ros, Jeorge Enrique, *Organisation et Personnalite Juridique de l'O.A.C.I.* Universite de Paris, 1953. (Thesis)

Schenkman, Jacob, *International Civil Aviation Organization.* Geneve, 1955.

Werner, Edward, *ICAO After Six Years.* Montreal, 1952.

(To be continued in next issue.)

INTERNATIONAL REVIEW

Compiled by J. G. GAZDIK in cooperation with DR. G. F. FITZGERALD and MR. A. M. LESTER (ICAO) and MISS S. F. MACBRAYNE.

I. INTERNATIONAL CIVIL AVIATION ORGANIZATION
- a. 11th Session of the Assembly of ICAO, Montreal, May 20-June 2, 1958.
- b. Summary of ICAO Doc. 7894-C/907: The Economic Implications of the Introduction into Service of Long-Range Jet Aircraft.
- c. European Civil Aviation Conference.

II. INTERNATIONAL AIR TRANSPORT ASSOCIATION
IATA Traffic Conferences, Nassau, The Bahamas, May 19-20, 1958.

III. INTERNATIONAL CHAMBER OF COMMERCE
International Commercial Arbitration (United Nations Conference, New York, June 1958).
ICC comments on International Convention adopted on June 10, 1958.

IV. CASES AND COMMENTS
Extract from judgment given by the First Civil Court of the Federal Tribunal lated March 12, 1957, in "Jacquet vs. Club Neuchâtelois d'Aviation" (Translation)
Tribunal de Versailles, First Chamber: "de Franceshi-Hiller Helicopters." March 12, 1957—1957 RFDA 276

I. INTERNATIONAL CIVIL AVIATION ORGANIZATION

11th SESSION OF THE ASSEMBLY OF ICAO, MONTREAL, MAY 20-JUNE 2, 1958

The 11th Session of the Assembly of the International Civil Aviation Organization was held at the Montreal Headquarters of the Association between May 20 and June 2, 1958.

Mr. H. E. Toru Hagiwara, Ambassador of Japan to Canada, was elected President of the Assembly. Mr. Hagiwara also presided over the Assembly's Executive Committee.

Mr. Alan Hepburn, Australian Representative on the ICAO Council, was elected Chairman of the Administrative Committee.

Representatives of 52 Member States, two non-Member States and three international organizations took part in the work of the Assembly.

A net budge of $3,672,000 (Canadian) to carry on the work of ICAO in 1959 was voted by the meeting, as compared with the figure of $3,310,800 voted by the previous Assembly for the year 1958.

Other actions taken by the Assembly include the following:

Implementation Panel

The Assembly provided funds to allow the ICAO Implementation Panel to complete its work; the period involved is expected to continue through 1958 and, if necessary, into the first months of next year. The Panel was set up by the ICAO Council to study the provision of air navigation facilities and services throughout the world and to consider what improvements in these will be necessary during the transition period when turbo-jet aircraft are being introduced on the world's air routes.

Limitation on Contributions

The Assembly decided in principle that the contribution of any one member state should not exceed 30% of the total contributions assessed in behalf of the ICAO budget. It therefore agreed to make a small reduction in the 1959 contribution of the United States of America, which now pays one-third of the total ICAO budget, and to leave to the next session of the Assembly the decision by which this principle may be further implemented, as well as requesting Council to study the assessment system.

A SUMMARY OF THE ICAO STUDY—"THE ECONOMIC IMPLICATIONS OF THE INTRODUCTION INTO SERVICE OF LONG-RANGE JET AIRCRAFT"*

The International Civil Aviation Organization has just released a study entitled "The Economic Implications of the Introduction into Service of Long-Range Jet Aircraft." This study was prepared by the ICAO secretariat, and was considered and revised by the ICAO Air Transport Committee. It has been released under the direction of the Council of ICAO, although the Council has not adopted or endorsed any of the views or conclusions contained in the study.

The study is an attempt to assess what appear to be the main economic implications of the introduction into service of the long-range turbo-jet airliners that are now on order in large numbers. First, the changing nature of the world's scheduled airline fleets is described, particularly the change-over to turbine power, and the general increase in size, speed, capacity, and price of the aircraft due to come into use in the next few years. Next, the differential characteristics of the larger jets are dealt with. In a number of important respects—particularly their weight, capacity, and price—they are outside the normal trends within which the other aircraft on order fall. Attention is then given to some general economic factors, such as the effects of recessions on the air transport industry, forecasts of supply of and demand for air transport productive capacity and the stage and traffic patterns of international air services. Finally the economic implications of the new aircraft for operators, users, and governments are examined.

Although the study is based on available information, it is admitted to be unavoidably to some extent theoretical and speculative. It deals with the air transport industry as a whole, on a world-wide basis, but excludes the relatively small sector of purely non-scheduled operators and those of the USSR and the People's Republic of China. Under these terms of reference any interchange of aircraft among operators does not change the overall picture, nor does it alter the total number of aircraft available for service within this sector. The exceptions are aircraft that are either put out of commission or sold to non-scheduled operators.

The study considers all civil transport aircraft of over 20,000 pounds maximum take-off weight, and covers the period from 1958 to the end of 1961. It sets out the present trend in the air transport industry towards turbine powered aircraft. Of the 1006 aircraft ordered up to April 1958 for delivery before the beginning of 1961, 86% will be powered by turbine engines and only 14% by piston engines. The proportion of turbine engined aircraft in the world's fleet will rise from 6% at the end of 1957 to an estimated 22% at the end of 1961.

Other aspects of the changing situation are the large increases in potential productivity. One of the new long-range turbo-jets is approximately equivalent to three of the latest piston-engined types, or to twenty DC-3's, in terms of capacity tonne-kilometres per hour. The Boeing 707, the Douglas

* By Roderick Heitmeyer, IATA Economics and Statistics Officer.

DC8, the Convair 880 and the Boeing 720, will all be capable of producing over 7,300 tonne-kilometres of air transportation per hour. It is estimated that by 1960, even when no allowance is made for disposals of piston-engined aircraft, approximately 22% of the potential production capacity of the world's air transport fleet will be offered in these four aircraft types representing only about 6% of the numerical total.

While turbo-prop aircraft fit into the general trend of development of aircraft characteristics that can be observed over the last ten years, turbo-jets represent a leap beyond this trend in many ways. Turbo-jet aircraft all fly faster and higher, are appreciably quieter and more comfortable inside, consume more fuel in relation to loads carried and distances flown, produce new heat and blast effects on the ground, and possess a novelty that will have a still unknown effect on their public appeal. There are, however, additional characteristics by which the larger turbo-jets may be distinguished from the others. These are their weight, runway requirements, purchase price, and their potential productive capacity. The two long-range turbo-jets—the Boeing 707 and the DC8—are about 50% heavier, require appreciably longer and stronger runways, and are about 50% more expensive to purchase than any other aircraft now in operation or on order. However, as a result of their high productivity the capital cost of the long-range jets, although high in absolute terms, is less per unit of production than that of the latest long-range piston-engined aircraft.

What the exact unit operating costs of turbine powered aircraft are, is inevitably unknown except in theory. Much has been written on the comparative operating cost of turbo-jets and turbo-props, but in many cases the opinions expressed are contradictory and the estimates provided not comparable. It would appear that this question will not be settled finally until a certain amount of operational experience has been gained. The study does however tentatively conclude that on suitable stage-lengths the unit operating costs of turbine powered aircraft will be, in general, somewhat lower than those of piston-engined types. It is also expected that some of the new aircraft will have lower "break-even" load factors than current types when operated over suitable stage lengths, but again it was not possible to forecast what these may turn out to be on the average in practice.

Future Demand Versus Capacity

Any consideration of the future of air transport involves the possibility of economic recessions, either relatively mild in scope or of a serious and world-wide nature such as occurred in the early 1930's. Insofar as the first type is concerned the evidence suggests that air transport is still in the stage of development where it tends to expand from year to year with relative immunity to minor changes in the general level of economic activity. It is probable, however, that this degree of immunity will tend to decrease, particularly as the ratio of pleasure to business travel increases. A world-wide and serious depression would present an altogether different picture and there is little doubt that the industry would be seriously affected.

Many attempts have been made to estimate the future demand for air transport, and almost as many different results have been obtained. There is a good deal of divergence of expert opinion on this matter. It would seem that quite apart from the possibility of economic recession there are too many unknown factors affecting the demand for air transport to permit forecasting more than a few years ahead with any degree of accuracy. The calculations made by ICAO of the future global demand for air transport have therefore been based on the simple projection, over the years 1958 to 1961, of the average increase from 1950 to 1957, namely an increase of 15% per year.

A different set of problems had to be faced when attempting to estimate

future global air transport production capacity. For one thing, the capacity that is actually offered in any given year is not necessarily the same as the total capacity in existence at that time. The capacity offered is, unless there is an absolute shortage of capacity, related to demand. Thus, if the total productive capacity at the disposal of the scheduled airlines is more than is required to meet the demand after all practical efforts have been made to obtain additional traffic, the excess will be disposed of either by selling aircraft to non-scheduled operators, by returning them to the manufacturers, by retiring them or otherwise. The study points out that any serious excess of total productive capacity over that required to satisfy demand could have an adverse effect on the air transport industry, since load factors may tend to fall before adequate steps have been taken to relate the capacity offered to the demand, and the process of disposing of surplus production capacity may be costly.

Since it is impossible to obtain any general world-wide picture of the operators' intentions with respect to their existing fleets, the study does not attempt to forecast what might be done with any aircraft that become surplus to airline requirements. The calculations of what ICAO calls "theoretical future productive capacity" are simply based on the estimated capacity of airline fleets at the end of 1957 (with a small allowance for attrition from accidents and other causes), and the capacity that would be added by the new aircraft due to be delivered from 1958 to 1961, assuming normal delays in putting them into service and normal rates of utilization thereafter. A comparison is then made of this total "theoretical productive capacity" with estimated future demand in order to show how much capacity the scheduled airlines would need to dispose of (in order to maintain present load factors) by selling aircraft to non-scheduled operators, by retiring them, or otherwise, or, alternatively, by what percentage total demand would need to be increased.

The study stresses that "the greatest caution must be observed in drawing conclusions from this calculation on a global scale. The following are the main assumptions on which it has been based, each of which contains a substantial margin of possible error:

(a) Average block speed for each aircraft type will equal mean cruise speed less 15%. (The actual block speed attained depends on many different factors and varies from one route to another.)

(b) Average payload capacity for each aircraft type will equal maximum payload less 20%. (The actual payload capacity varies from one flight to another and depends on the configuration of the aircraft, the weather, the ground facilities, the length of the flight and many other factors).

(c) Average daily aircraft utilization will be 8 hours for long-range jets and 7 hours for medium-range jets and for turbo-props. (In the first two years of the life of a new type of aircraft, the utilization is normally low but increases gradually as initial technical troubles are overcome and as experience is gained.)

(d) There will be no serious alteration in the present delivery schedules for the new aircraft coming into service from 1958 to 1961.

(e) Attrition resulting from accidents and other causes will reduce the existing fleet by about 2% per year. (Disposal of aircraft by retirement or sale to non-scheduled operators is not allowed for in the calculation of theoretical future productive capacity.)

(f) A load factor of 58.6% is taken as datum line. (Until more is known of operating costs of the new jets, it cannot be established that an actual load factor below 59% would be below the break-even factor.)

(g) Global demand for air transport (passengers, cargo and mail) will continue up to 1961 to increase at the 1950-1957 average growth rate of 15% per year."

On these assumptions, the calculations show a theoretical excess capacity each year, rising to over 2,400 million ton-miles in 1960, and falling to about 2,200 million ton-miles in 1961. It is estimated that the annual growth in capacity will rise above the assumed demand growth rate of 15% in 1958, with a growth of 22.2%, and in 1960 with a growth of 24.9%. The first of these increases reflects the main impact of the turbo-props on the world's fleet and the second, that of the new turbo-jets.

This calculation of excess capacity makes no allowance for the disposal of existing aircraft (other than 2% for attrition). The study assumes that the 1961 fleet will include 1393 DC-3's, 284 DC-4's, 160 C-46's as well as a number of other obsolete and obsolescent types. It expects, however, that a large number of these older types will have been scrapped by 1961.

The study also points out that the potential excess would not appear in practice, for instance, if 20% of the older piston-engined aircraft were disposed of. But it is expected that the disposal of some of the existing fleets will prove to be difficult.. A number of the aircraft of the older piston-engined types will have been fully or nearly fully depreciated and could be retired without seriously affecting the operating accounts of the airlines concerned. It is probable that many airlines will have planned their re-equipment programs on the assumption that they could realize some capital on their old aircraft, but the market for these aircraft appears to be limited. While international services account for only just over one-third of the total operations of the world's scheduled airlines, it seems likely that approximately two-thirds of the new long-range jet capacity will be available for these services. It is believed that after all possible transfers have been made from international to domestic operators a sizable surplus of capacity would still exist. The remaining possible market would lie with the non-scheduled airlines, whose operations do not amount in total to more than 10% of those of the scheduled airlines. Assuming that their operations are increasing at the same rate of 15% per annum, they can absorb a maximum of only about 1.5% of the scheduled operators' total productive capacity each year, even if they purchase no new equipment directly from the manufacturers. Even after these allowances are made the study estimates a theoretical surplus capacity for every year from 1958 to 1961, as follows—1958: 650 million ton-miles; 1959: 416 million ton-miles; 1960: 1,883 million ton-miles; 1961: 1,363 million ton-miles.

Route Patterns

Having examined the relationship between the supply and demand for air transport the study goes on to examine how the long-range jets will fit into the pattern of air services. It concludes that the international air service pattern is likely to be different in 1961, having a higher proportion of long stages, and of services with greater volume of traffic.

The long-range turbo-jet aircraft are generally agreed to be most suitable on routes where stage lengths are fairly long and where the volume of traffic is fairly high. They can still operate where stage lengths are shorter and traffic lighter, but less economically, or giving a less frequent service, until there comes a point where a particular stage can only be operated at a loss. These stages may still be operated, for example when they form a part of an otherwise suitable long route.

When the long-range jets are introduced it may be assumed that certain stops will be eliminated, either because refuelling is less frequently necessary or because the amount of traffic generated does not warrant the expense of landing and taking off. More reliance may be expected to be placed on feeder services. Airlines may also stagger their stopping schedules, and in some cases utilize the change of gauge technique. The resultant traffic pattern may consist of a number of short-stage stopping services, using the older types

of aircraft, along and across the main trunk routes feeding traffic to the jets at a few well separated points, with turbo-prop aircraft doing medium stage-length services and jets doing long stage-length services. It will, however, be some years before many parts of the international sector have developed enough traffic to support a complex service of this kind with satisfactory frequencies and load factors. This development may be accelerated in some cases, however, if governments extend the exchange of traffic rights.

Economic Implications for the Operators

The most striking feature of the transfer to jet powered aircraft is the high unit and total capital cost involved. The total value, without spares, of the aircraft on order for delivery by the end of 1961, both turbine and piston-engined, is approximately $3,000 million which is almost equal to the total list price value of the transport aircraft now in service in the world, calculated at about $3,100 million. Financing the purchase of such expensive equipment is already posing many serious problems.

The financial pressures may be expected to be felt most acutely by smaller airlines whose operations are not based on particularly high density routes. In some cases, where they are unable to afford the expensive new equipment they may be forced off the longer routes where the turbo-jets will have the greatest competitive advantage. This may give rise to an increase in such forms of inter-airline cooperation as pooling, chartering, and cooperative ownership and interchange of aircraft.

The competitive appeal of the jet will be based on speed and comfort. The economic significance of this appeal may not be so great in competition with surface transport, since the chief advantage of air transport—speed—is already so marked. The public appeal of the jet will be most significant in competition between airlines. It may be assumed that in general, where restrictions are not imposed, the competitive advantages of the jet will enable it rapidly to take traffic away from turbo-props and piston-engined aircraft operating on the same stages.

The public appeal may in some cases provide the operator with justification for demanding higher fares for jet transport. Where for various reasons turbo-jets are operated on medium or short distance routes and come into competition with other types of aircraft, an inter-airline agreement to establish differential fares to operate similar types of equipment on certain routes may be necessary.

The problem of attracting additional traffic will be a crucial one for the operators. The most effective way of achieving this is by the introduction of lower fares. It may also be necessary to increase selling expenses in the initial stages. The change-over to jet operations is also expected to raise training and maintenance costs, though the incidence of these items may be expected to decline as a result of the relative simplicity of the jet engine to operate and maintain. The effect of such additional costs in the early stages of jet operation may in fact influence airlines and governments in some cases not to favor reductions in fares and rates.

Passenger traffic falls broadly into two categories: business and pleasure. The former category is likely to be only slightly affected by changes in fares. Any large increase in passenger traffic must be sought in the pleasure category where cost is the most important consideration. But as the air transport industry comes to depend more and more on the pleasure traveller, the problem of "peak" demand periods will increase, and it may be that some of the older aircraft will be stored in serviceable condition for use at such times.

It seems probable that the operators in determining fare levels will be faced with a complex problem since the new aircraft types, although involving higher initial outlay, will be ultimately more attractive to the public and

cheaper to operate than the older piston-engined aircraft, which will still be in service on most routes for many years.

It is difficult to foresee with any certainty the effects of the introduction of the long-range jets on freight and non-scheduled operations. The availability of a considerable number of piston-engined aircraft at favorable prices may encourage their use on these types of operation. On the other hand, operators may employ long-range jet aircraft on freight and charter flights in an effort to utilize the greater productive capacity of these aircraft, which would again put them in competition with piston-engined aircraft. It is in any case probable that there will be a considerable increase in available capacity on these sectors in 1960 and 1961. This may lead to increased pressure from the operators concerned for a more liberal granting of operating rights, and to a reduction in frieght rates. The next few years are also likely to see a strong demand for improvements in ground handling facilities.

Economic Implications for Governments

The appearance and introduction of long-range jet aircraft will greatly accentuate the need for increased expenditure on airports and other air navigation facilities and services. They have in some cases also created particular needs that would not otherwise have arisen. Among these requirements are lengthened and strengthened runways, at least at certain "gateway" airports, a general increase in apron and hangar space, increased fuel storage facilities and faster refuelling devices, as well as modifications in airport design to reduce taxiing distances to a minimum. A considerable increase in expenditure will be necessary in respect of air navigation facilities and services, as a result of the steady increase in traffic density combined with the high speed, high fuel consumption (with consequent sensitivity to diversions and delays), high cruising altitudes, and more critical performance standards of the new turbo-jet aircraft.

From the facilitation point of view, the introduction of long-range jet aircraft with large loads will not only aggravate the present position, but will accentuate traffic peaks. This will call for extra efforts on the part of the managements of airports and the various government departments concerned to avoid serious congestion by ensuring rapid clearance.

The study points out that the steady increase in traffic, particularly tourist traffic, that is expected over the next few years should bring with it many economic benefits, direct and indirect, for the states receiving this traffic. The possibility exists, however, that this development may be retarded and the consequent benefits lost to certain areas should there be a lack of suitable accommodation. There are indications that tourist facilities are already becoming inadequate in some areas, and concern has been expressed about this situation by the ECAC, IATA, ITA, OEEC and UIOTO. ECAC, for instance, have recognized that the development of tourist traffic depends on, amongst other things, the existence of adequate facilities and accommodation for the air travellers, and has urged its Member States to take "necessary steps to ensure that there will be adequate hotel facilities to accommodate the increase in tourist traffic expected in the jet age."

Finally, the study suggests that governments may find it necessary to review certain aspects of their air transport policies in the light of the economic position of their carriers. Some of the matters that may require reconsideration are the extent to which the increased costs of airports and air navigation facilities should be passed on to airlines in the form of user charges; levels of taxation in view of the high costs of the new equipment and the sensitivity of jet operations to fuel prices; bilateral or multilateral agreements on the exchange of commercial rights; and the question of financial assistance to airlines, at least in the early phases of jet age, to keep

fares down in order to increase traffic. Governments may also be called upon to consider the desirability of contributing to technical assistance funds for the training of personnel to operate new air navigation facilities, and whether to participate in new joint financing schemes for the provision of air navigation facilities.

EUROPEAN CIVIL AVIATION CONFERENCE

The third session of the European Civil Aviation Conference (ECAC) will be held in Strasbourg, France, in the early part of 1959. The agenda is at present being established but indications are that the meeting, which groups the governments of Western Europe, will devote considerable attention to European charges and European route facilities' charges.

Other items on the agenda include: development of standard clauses in bilateral agreements; draft multilateral agreement on the technical aspects of interchange; draft multilateral agreement on certificates of airworthiness for imported aircraft; European cooperation in the basic flight training of personnel and of air navigation services ground personnel; simplified measures for the import and export of cargo, including special arrangements for shipments of low value and special arrangements for the rapid provision of import and export licenses or permits where these cannot be obtained immediately; and elimination of embarkation/disembarkation cards.

II. INTERNATIONAL AIR TRANSPORT ASSOCIATION

IATA TRAFFIC CONFERENCES, NASSAU, THE BAHAMAS MAY 19-20, 1958

The Composite and Joint Meetings of the IATA Traffic Conferences 1, 2 and 3 were held at Nassau on May 19-20, 1958.

A new technique has been introduced this year in order to break down the usual heavy agenda which these meetings have in the past tackled in the late summer. From now on, it is hoped that questions of procedure can be dealt with by the Spring Meeting, leaving to the Fall Meeting the questions of policy.

Certain IATA Traffic Resolutions, relating to such subjects as Conversion of Passenger Fares and Excess Baggage Rates, Rates of Exchange, Form of Passenger Ticket and Baggage Check, Tickets—Alterations to Flight Coupons, Voluntary Changes to Ticket, Form of Exchange Order, etc., have either been rescinded or revalidated and amended.

The Composite and Joint Meetings of the IATA Traffic Conferences are due to resume their discussions in Cannes on September 23, 1958, when the main questions on the agenda will pertain to Fares and Rates.

III. INTERNATIONAL CHAMBER OF COMMERCE

INTERNATIONAL COMMERICAL ARBITRATION

The United Nations Conference on International Commercial Arbitration met in New York in May of this year.

The basic document for discussion was entitled the "Draft Convention on the Recognition and Enforcement of Foreign Arbitral Awards" which had been drawn up for the United Nations Economic and Social Council (ECOSOC) by a group of experts.

For some time, the most important international agreement on the subject was the Geneva Convention of 1927 which, when it was made, repre-

sented a great advance on existing procedure but it had become outmoded. However, the ICC, exercising its privilege as a Consultative Non-Governmental Organization, placed on the agenda of ECOSOC in 1953 a project for a new Convention. This was intended to serve as basis for the work of ECOSOC.

In its Special Number of the ICC News (Vol. XXIV, No. 3, April 1958), there appears an interesting account of the different methods of arbitration prevailing in various parts of the world.

Since the signing of the Geneva Convention in 1927, the International Institute for the Unification of Private Law in Rome (with which the ICC was cooperating) had been working to draw up a uniform law of arbitration in private disputes which could be adopted universally. During the Lisbon Congress of the ICC in 1951, however, the above plan was abandoned because it was considered that it would be extremely difficult to persuade the governments of the world to adopt a uniform law in this matter.

According to the ICC view, commercial people should be free to make the kind of contract they consider best suited to their individual and special needs and the only grounds on which an arbitration award should be set aside would be:

1. that it was contrary to public policy in the country in which it was sought to be relied on;
2. that the subject-matter of the award was not capable of settlement by arbitration under the laws of the country in which it was sought to be relied on;
3. that the conduct of the arbitration could be shown to have been contrary to the principles of natural justice; and
4. that the arbitral procedure was not in conformity with the rules stipulated by the parties, irrespective of whether these rules conform with those of the national law of the place of arbitration.

In the following pages the Convention is reproduced as approved by the United Nations diplomatic conference on June 10th, 1958, together with the International Chamber of Commerce comments thereon:

COMMISSION ON INTERNATIONAL COMMERCIAL ARBITRATION

Recognition and Enforcement of Foreign Arbitral Awards

Text of Convention
*As approved by the UN Conference on 10 June 1958**

Article I

1. This Convention shall apply to the recognition and enforcement of arbitral awards made in the territory of a State other than the State where the recognition and enforcement of such awards are sought, and arising out of differences between persons, whether physical or legal. It shall also apply to arbitral awards not considered as domestic awards in the State where their recognition and enforcement are sought.

2. The term "arbitral awards" shall include not only awards made by arbitrators appointed for each case but also those made by permanent arbitral bodies to which the parties have submitted.

3. When signing, ratifying or acceding to this Convention, or notifying extension under article X hereof, any State may on the basis of reciprocity declare that it will apply the Convention to the recognition and enforcement of awards made only in the territory of another Contracting State. It may

* 35 in favor, none against, with 4 abstentions (Guatemala, Norway, Yugoslavia, U. S.).

also declare that it will apply the Convention only to differences arising out of legal relationships whether contractual or not, which are considered as commercial under the national law of the State making such declaration.

ARTICLE II

1. Each Contracting State shall recognize an agreement in writing under which the parties undertake to submit to arbitration all or any differences which have arisen or which may arise between them in respect of a defined legal relationship, whether contractual or not, concerning a subject matter capable of settlement by arbitration.

2. The term "agreement in writing" shall include an arbitral clause in a contract or an arbitration agreement, signed by the parties or contained in an exchange of letters or telegrams.

3. The Court of a Contracting State, when seized of an action in a matter in respect of which the parties have made an agreement within the meaning of this article, shall, at the request of one of the parties, refer the parties to arbitration, unless it finds that the said agreement is null and void, inoperative or incapable of being performed.

ARTICLE III

Each Contracting State shall recognize arbitral awards as binding and enforce them in accordance with the rules of procedure of the territory where the award is relied upon, under the conditions laid down in the following articles. There shall not be imposed substantially more onerous conditions or higher fees or charges on the recognition or enforcement of arbitral awards to which this Convention applies than are imposed on the recognition or enforcement of domestic arbitral awards.

ARTICLE IV

1. To obtain the recognition and enforcement mentioned in the preceding article, the party applying for recognition and enforcement shall, at the time of the application, supply:

(a) the duly authenticated original award or a duly certified copy thereof;

(b) the original agreement referred to in article II or a duly certified copy thereof.

2. If the said award or agreement is not made in an official language of the country in which the award is relied upon, the party applying for recognition and enforcement of the award shall produce a translation of these documents into such language. The translation shall be certified by an official or sworn translator or by a diplomatic or consular agent.

ARTICLE V

1. Recognition and enforcement of the award may be refused, at the request of the party against whom it is invoked, only if that party furnishes to the competent authority where the recognition and enforcement is sought, proof that:

(a) the parties to the agreement referred to in Article II were, under the law applicable to them, under some incapacity, or the said agreement is not valid under the law to which the parties have subjected their agreement or failing any indication thereon, under the law of the country where the award was made;

(b) the party against whom the award is invoked was not given proper notice of the appointment of the arbitrator or of the arbitration proceedings or was otherwise unable to present his case; or

(c) the award deals with a difference not contemplated by or not falling within the terms of the submission to arbitration, or it contains decisions on matters beyond the scope of the submission to arbitration, provided that, if the decisions on matter submitted to arbitration can be separated from those not so submitted, that part of the award which contains decisions on matters submitted to arbitration may be recognized and enforced; or

(d) the composition of the arbitral authority or the arbitral procedure was not in accordance with agreement of the parties, or, failing such agreement, was not in accordance with the law of the country where the arbitration took place; or

(e) the award has not yet become binding on the parties, or has been set aside or suspended by a competent authority of the country in which, or under the law of which, that award was made.

2. Recognition and enforcement of an arbitral award may also be refused if the competent authority in the country where recognition and enforcement is sought finds that:

(a) the subject matter of the difference is not capable of settlement by arbitration under the law of that country; or

(b) the recognition or enforcement of the award would be contrary to the public policy of that country.

ARTICLE VI

If an application for the setting aside or suspension of the award has been made to a competent authority as referred to in Article V paragraph 1 (e) the authority before which the award is sought to be relied upon may, if it considers it proper, adjourn the decision on the enforcement of the award and may also, on the application of the party claiming enforcement of the award, order the other party to give suitable security.

ARTICLE VII

1. The provisions of the present Convention shall not affect the validity of multilateral or bilateral agreements concerning the recognition and enforcement of arbitral awards entered into by the Contracting States nor deprive any interested party of any right to avail himself of an arbitral award in the manner and to the extent allowed by the law or the treaties of the country where such award is sought to be relied upon.

2. The Geneva Protocol of 1923 and the Geneva Convention on the Execution of Foreign Arbitral Awards of 1927 shall cease to have effect between Contracting States on their becoming bound and to the extent they become bound by this Convention.

ARTICLE VIII

1. This Convention shall be open until 31 December 1958 for signature on behalf of any Member of the United Nations and also on behalf of any other State which is or hereafter becomes a member of any specialized agency of the United Nations, or which is or hereafter becomes a party to the Statute of the International Court of Justice, or any other State to which an invitation has been addressed by the General Assembly of the United Nations.

2. This Convention shall be ratified and the instrument of ratification shall be deposited with the Secretary-General of the United Nations.

ARTICLE IX

1. This Convention shall be open for accession to all States referred to in Article VIII.

2. Accession shall be effected by the deposit of an instrument of accession with the Secretary-General of the United Nations.

ARTICLE X

1. Any State may, at the time of signature, ratification or accession, declare that this Convention shall extend to all or any of the territories for the international relations of which it is responsible. Such a declaration shall take effect when the Convention enters into force for the State concerned.

2. At any time thereafter any such extension shall be made by notification addressed to the Secretary-General of the United Nations and shall take effect as from the ninetieth day after the day of receipt by the Secretary-General of the United Nations of this notification, or as from the date of entry into force of the Convention for the State concerned, whichever is the later.

3. With respect to those territories to which this Convention is not extended at the time of signature, ratification or accession, each State concerned shall consider the possibility of taking the necessary steps in order to extend the application of this Convention to such territories, subject, where necessary for constitutional reasons, to the consent of the Governments of such territories.

ARTICLE XI

1. In the case of a federal or non-unitary State, the following provisions shall apply:

(a) With respect to those articles of this Convention that come within the legislative jurisdiction of the federal authority, the obligations of the federal Government shall to this extent be the same as those of Contracting States which are not federal States;

(b) With respect to those articles of this Convention that come within the legislative jurisdiction of constituent states or provinces which are not, under the constitutional system of the federation, bound to take legislative action, the federal Government shall bring such articles with a favorable recommendation to the notice of the appropriate authorities of constituent states or provinces at the earliest possible moment;

(c) A federal State party to this Convention shall, at the request of any other Contracting State transmitted through the Secretary-General of the United Nations, supply a statement of the law and practice of the federation and its constituent units in regard to any particular provision of this Convention, showing the extent to which effect has been given to that provision by legislative or other action.

ARTICLE XII

1. This Convention shall come into force on the ninetieth day following the date of deposit of the third instrument of ratification or accession.

2. For each State ratifying or acceding to this Convention after the deposit of the third instrument of ratification or accession, this Convention shall enter into force on the ninetieth day after deposit by such State of its instrument of ratification or accession.

ARTICLE XIII

1. Any Contracting State may denounce this Convention by a written notification to the Secretary-General of the United Nations. Denunciation shall take effect one year after the date of receipt of the notification by the Secretary-General.

2. Any State which has made a declaration or notification under article X may, at any time thereafter, by notification to the Secretary-General of the United Nations, declare that this Convention shall cease to extend to the territory concerned one year after the date of the receipt of the notification by the Secretary-General.

3. This Convention shall continue to be applicable to arbitral awards in respect of which recognition or enforcement proceedings have been instituted before the denunciation takes effect.

ARTICLE XIV

A Contracting State shall not be entitled to avail itself of the present Convention against other Contracting States except to the extent that it is itself bound by the Convention.

ARTICLE XV

The Secretary-General of the United Nations shall notify the States contemplated in article VIII of the following:

(a) Signature and ratifications in accordance with article VIII;
(b) Accessions in accordance with article IX;
(c) Declarations and notifications under articles I, X, and XI;
(d) The date upon which this Convention enters into force in accordance with article XII;
(e) Denunciations and notifications in accordance with article XIII.

ARTICLE XVI

1. This Convention, of which the Chinese, English, French, Russian and Spanish texts shall be equally authentic, shall be deposited in the archives of the United Nations.

2. The Secretary-General of the United Nations shall transmit a certified copy of this Convention to the States contemplated in article VIII.

CONVENTION ON THE RECOGNITION AND ENFORCEMENT OF FOREIGN ARBITRAL AWARDS 10th JUNE 1958

I. *Introductory remarks*

There is no doubt that the new convention reflects the ICC's suggestions and recommendations in the most satisfactory manner. These proposals referred, in particular, to the title and scope of the convention and also the provisions that deal with the conditions for the recognition and enforcement of the awards to which the convention applies.

In all these respects the new convention is more favorable to international commercial arbitration than the 1927 Geneva Convention and therefore likely to lead to a greater expansion of international commercial arbitration.

The aim of this short paper is to draw attention to these advantages and in particular to show how the application of the ICC's Rules of Arbitration will be made easier as a result of the reforms introduced by this new convention.

II. *Freedom to choose the law governing the arbitration proceedings*

The first difficulty encountered by the ICC's arbitration under the 1927 Geneva Convention stemmed from the basic principle of that Convention, viz. the automatic application to the arbitration proceedings of the legislation of the country where arbitration took place.

This principle had the effect of severly limiting the freedom of choice of the parties or the ICC's Court of Arbitration regarding the most appropriate place for arbitration in each individual case: any country whose arbitral laws contained provisions that were incompatible with the ICC's Rules of Procedure had of necessity to be ruled out.

The ICC tried for more than 20 years to overcome this disparity between domestic arbitral laws by advocating the international unification of these laws. This reform would have made it possible fully to ensure the ubiquity of the ICC's arbitration by removing all legal obstacles to the application of its rules of procedure.

When it finally became clear that nothing would come of this attempt at legislative unification in the immediate future, the ICC drew up a preliminary draft convention, the one on which the new United Nations Convention is based. Under this draft, the application of national rules of procedure was to be limited to disputes of a purely domestic character. In this way the ICC hoped to remove arbitration proceedings, where international business was concerned, from the realm of all national rules of procedure so as to give the parties absolute freedom to settle procedural matters.

This thorough-going solution was not adopted by the New York Conference. But the ICC has no reason for complaint.

In the first place, the solution adopted is still capable of considerably extending the scope of our arbitration. The convention enables the parties to select a place and to hold the arbitration proceedings there in accordance with a foreign law of their own choosing. In other words, to take a concrete example, if the Court, in a dispute between a Portuguese firm and a French company, had chosen Madrid as the place for arbitration, this choice would have meant the application of Spanish rules of procedure, whereas under the new convention, the parties can perfectly well stipulate that the arbitration proceedings shall be held in Madrid in accordance with the rules of the French code of civil procedure. This obviously represents a considerable advance. Spanish law does not recognize as valid the nomination of the arbitrator or arbitrators by the Court of Arbitration but instead requires that they should be nominated personally by the parties. This consequently prevents the realization of one of the most important aims of the ICC's Court of Arbitration, indeed of all institutional arbitration. On the other hand, the French code of civil procedure allows the parties the greatest freedom in this respect by not placing any obstacle in the way of the application of the ICC's Rules of Arbitration, in the example quoted above.

Furthermore, the solution adopted in New York does pay sufficient heed to the requirements of international commercial arbitration. It is always possible, irrespective of the place chosen for arbitration, for the parties by mutual consent, to substitute for the statutory procedure in force in that country the procedural requirements of another country that are compatible with the Rules—let us say for the sake of argument those of the ICC—which they are willing to accept. The more thorough-going solution originally envisaged by the ICC to free international arbitration not only from the domestic law in question but indeed from all municipal laws, would only have been required in a single case, where no domestic law was compatible with the needs of modern international trade. In actual fact, however, the laws of many countries are perfectly well suited to these needs and do not hamper the working of the ICC's arbitration.

III. *Abolition of the double enforcement order*

In the example of arbitration between the French and Portuguese companies in Spain it was necessary, in order that the successful party, let us say the Portuguese firm, could seek enforcement in France, that the award

had become "final" in Spain. In practice, this condition meant that it was first necessary to file a request with the Spanish courts for an enforcement order which would thereby testify to the final and operative character of the award. This obligation was totally at variance with business needs in view of the fact that in such a case enforcement was not envisaged in Spain whose only connection with the dispute was the more or less fortuitous one arising out of the choice of the arbitrator and the place of arbitration.

This tiresome necessity of a double enforcement order in the country where the award was given and in the country where it was sought to be relied on, is done away with in the new convention, in accordance with the ICC's recommendations, although the ECOSOC experts, when preparing their draft which served as the basis for the Conference, did not think it would be possible to achieve this reform.

IV. *New facilities for the successful party*

No less numerous were the difficulties encountered by a successful party to international arbitration proceedings in the country where the award was to be relied upon.

The party has in particular to furnish proof that the award in question complied with certain specific conditions. It likewise had to contend with a long list of reasons for which enforcement could be refused and which the defaulting party could freely invoke whilst obliging the successful party to prove, where necessary, the non-existence of the reason quoted for refusal.

The reforms proposed by the ICC in this connection were basically designed to secure prima facie recognition of the enforceability of the award. It thus aimed at imposing on the defending party the burden of proving the existence of any grounds for refusal, at the same time the ICC felt that the list of these reasons ought to be considerably reduced.

On this point, which is most important for arbitration practice, the new convention is entirely satisfactory to the ICC; it would not even be an exaggeration to say that the text finally adopted of Articles IV, V and VI which govern this question meet the ICC's wishes even better than the relevant articles in its own draft.

Henceforward it will be sufficient for the claimant merely to supply (a) the text of the arbitration agreement (arbitration clause or submission) and (b) the text of the award (Article IV).

Thus, provided the subject matter of the award is capable of settlement by arbitration under the law of the country in which the award is sought to be relied upon or the recognition or enforcement of the award is not contrary to public policy in that country, the claimant should in principle receive satisfaction.

With regard to the few cases which are still considered to constitute a ground for refusal it is up to the defending party to furnish proof of the existence of one of these grounds (Article V).

This reform can best be described by saying that it is highly improbable that any award given on behalf of the ICC would ever—owing to the supervision exercised in this connection by its Court of Arbitration in accordance with Article 26 of its Rules—be refused recognition or enforcement on any of the grounds given in the complete list under Article V of the New York Convention.

V. *Conclusions*

These, then, are very briefly the main reasons why the ICC should welcome the result of the New York Conference for the Convention offers businessmen the desired new facilities while at the same time making certain reservations designed to safeguard the sovereignty of the States concerned.

As moreover the ICC provided the original inspiration for the reforms

thus achieved it is doubly appropriate that it should take the lead in trying to secure the signature and ratification of the New York Convention by the largest possible number of countries.

The Convention is open for signature until 31st December 1958 (Article VIII) and it will come into force on the 90th day following the date of deposit of the third instrument of ratification or accession.

At the end of the Conference 10 States out of the 45 taking part immediately signed the Convention. As it was however adopted by 35 nations, there is reason to hope that the Convention will soon acquire the universality which was denied the 1927 Geneva Convention.

National Committees are therefore urged to bring all their influence to bear with governments in order to ensure as quickly as possible the signature and ratification of the new Convention. The ICC realizes only too well that a vigorous campaign by business circles can alone persuade governments to take the decision that is expected of them.

IV. CASES AND COMMENTS

EXTRACT FROM JUDGMENT GIVEN BY THE FIRST CIVIL COURT OF THE FEDERAL TRIBUNAL DATED MARCH 12th, 1957, IN "JAQUET VS. CLUB NEUCHATELOIS D'AVIATION"

A. On March 25th, 1953, the Neuchâtel Aero-Club—an association which is regulated by Articles 60 et seq. of the Swiss Civil Code—informed the Zurich Branch of the "Aero-Club Suisse" that they wanted to release publicly a free balloon on May 16th, 1953. On March 31st, 1953, the Zurich Club replied that their balloon "Helvetia" could be used for that purpose. They added the following instructions: "From the passengers you can collect the usual tax of Frs. 200 per person. In addition, the passengers must pay the fee of Frs. 20 for the compulsory balloon-passenger insurance. Normally . . . Helvetia can take three passengers in addition to the pilot, so that you can count on a receipt from taxes of Frs. 600."

The Neuchâtel Club agreed to the conditions for the ascent attached to the letter which, among others, contained the following provisions:

> "The Zurich Balloon Section undertakes:
>
> 3. To furnish the services of a reliable pilot and balloon master.
>
> The Neuchâtel Aero-Club undertakes:
>
> 4. To pay all expenditure relating to the organization and filling on the Neuchâtel field. . . .
> 5. To pay a rent of Frs. 400 for the Balloon Helvetia, as well as the cost of the balloon-passenger insurance, amounting to Frs. 80 (for four persons).
>
> The Neuchâtel Club has the right to rent to fare-paying passengers the three passenger seats available in addition to the pilot's.
>
> The pilot and the balloon master are to supervise and be responsible for the filling operations on the Neuchâtel field. The decision as to whether to take off (weather) belong to the pilot alone."

The Zurich Branch, having been informed by the Neuchâtel Club that it would be difficult to find three paying passengers, on April 28th, 1953, answered as follows: "In addition, we will do our best to find a fare-paying passenger from Zurich or Bern for your flight, in order to help you fill the car."

The Zurich Club appointed one of its members, Frederic Michel, as pilot and concluded an agreement with him regarding the conditions of employment.

B. On May 16th, 1953, the "Helvetia" ascended normally at Neuchâtel under the direction of the pilot, Michel. The present appellant, Charles Jaquet, was among the three passengers on board. One of the passengers had been provided by the Zurich Club and each of them had paid the amount of Frs. 150 to the Neuchâtel Club, which included the insurance premium. Before the take-off, and during the ascent, Michel gave the passengers instructions as to behavior during the landing.

When the balloon landed—near Lauwil (Bâle-Campagne)—the gondola (or car) was upset by the strong wind. Jacquet was hurled to the ground and broke his thigh-bone. He underwent lengthy treatment and now suffers from a permanent invalidity which his doctor evaluates at 20%. The Winterhour Insurance Company, where the collective passenger insurance policy had been taken out, paid him an indemnity of Frs. 6,947.

The Federal Commission of Investigation delivered its findings on February 22nd, 1954. They considered that during the last stage of the flight the pilot had not had enough lest left to control his landing and that, therefore, he had committed a slight fault by taking to little lest at departure time.

C. Charles Jaquet sued the Neuchâtel Aero-Club for damages which he finally fixed at Frs. 29,303, with interest at 5% as of May 16th, 1953. The defendant asked that the claim be rejected.

In a judgment, dated June 4th, 1956, the "Tribunal cantonal" of Neuchâtel rejected the plaintiff's conclusions.

D. Jaquet then appealed to the Federal Tribunal, emphasizing the conclusions which he had submitted to the Cantonal Court. The Neuchâtel Aero-Club asked that the appeal be rejected.

The Law Contained Within the Case

1. A free balloon is an aircraft within the meaning of the Federal Law on Air Navigation of December 21, 1948 (see Art. 51, para. 2 of this Decree, and Art. 1 of the Enforcement Regulation of June 5, 1950). In the case of transportation on a free balloon, the carrier's liability is covered by the Air Transport Regulation of October 3, 1952 (RTA), issued by the Federal Council in conformity with Article 75, para. 1 of the Federal Law on Air Navigation. Under Article 8 (RTA), the carrier is liable in both domestic and international transportation, in conformity with the provisions of the Warsaw Convention of October 12, 1929, and the additional provisions to this regulation. Under Article 17 of the Warsaw Convention "the carrier is liable for damage sustained in the event of the death or wounding of a passenger or any other bodily injury suffered by a passenger, if the accident which caused the damage so sustained took place on board the aircraft or in the course of any of the operations embarking or disembarking." However, under Article 20(1) "the carrier is not liable if he proves that he and his agents have taken all necessary measures to avoid the damage or that it was impossible for him or them to take such measures." The Warsaw Convention does not define the term "carrier" but the transport regulation does so in Article 1, para. f: The carrier is the person who undertakes to carry persons, baggage or cargo on an aircraft.

In the present case, Jaquet suffered damage under conditions envisaged by Article 17 of the Warsaw Convention. Furthermore, it has been established that the transport took place against a payment of Frs. 150 which included the accident insurance premium. The person who accepted him as a passenger is therefore liable for the damage, unless he can exonerate himself by establishing the defense provided under Article 20(1) of the Warsaw Convention.

2.(a) According to the Cantonal Court, the two clubs did not conclude a charter agreement and the Zurich Club must be considered as the carrier.

According to the Court, it was agreed that a balloon should be launched under the responsibility of its pilot, who was to be the sole person authorized to give the order for departure and to determine the number of passengers; moreover, it was the Zurich Club which agreed to carry passengers and, against a payment of Frs. 400, granted to the Neuchâtel Aero-Club the right to supply them with three passengers; finally, the ascent tax, due by those organizing the meeting, was paid by the Zurich Club.

(aa) This last statement is obviously based on error and is substantiated by the defendant's letters of May 6 and 17, 1953; by the letter of May 5, 1953, from the Zurich Club to the pilot, Michel; and by the statement of accounts for the meeting—namely that it was the Neuchâtel Aero-Club which paid the tax of Frs. 115 to the Federal Air Office. Moreover, the defendant recognizes these facts. The contrary statement of the Cantonal judges therefore must be rectified ex officio by virtue of Article 63, Para. 20 J.

(bb) By stating that the Zurich Club had merely granted to the defendant the right to supply passengers, the Cantonal Court did not establish a fact; they had judged the legal significance of the concurrent statements of the parties and determined the subject and consequences of their agreement. It becomes therefore a matter of law on which the Federal Tribunal has competence.

However, the interpretation of the first judges is incompatible with the wishes expressed by the parties. The conditions which the Defense accepted on March 31, 1953, provided for the payment of the sum of Frs. 400 for the balloon. In addition, the Zurich Club stated in a letter dated April 26, 1953, that they would try to supply the Neuchâtel Aero-Club with a passenger for the ascent being organized by the latter club. It cannot therefore be deduced from the agreement concluded between the parties, that the extent of the Defendant's participation was limited to that of supplying passengers for the ascent.

(cc) It does not necessarily follow that, because the take-off was under the control of a pilot who was engaged by the Zurich Club, the Zurich Club must be considered as "carrier" (see above para. b).

B. Whether the Zurich Club or the Neuchâtel Aero-Club must, in this particular case, be considered "the carrier" is the most important question, i.e. the one who undertook to carry Jaquet by aircraft for consideration (Article 1, para. F (RTA) Air Transport Regulations) or, in other words, who concluded the contract of carriage with the appellant.

No mention is made in the Cantonal judgment as to who made the suggestion that Jaquet participate in the ascent but the Cantonal Court does note that the president of the Neuchâtel Aero-Club, in reply to a request from the appellant, Jaquet, told the latter that he was insured. On the other hand, it appears from the facts, as established by the Judges of first instance, that the defendant had the right to take three passengers, that it sought such persons, and that the Zurich Club intervened in order to supply a passenger. Furthermore, it is established that Jaquet paid the Neuchâtel Aero-Club the fare for the trip; additionally, the event was organized by the defendant which paid the tax for the ascent. Under these conditions, it is clear that Jaquet concluded the contract of carriage with the Neuchâtel Aero-Club and not with the Zurich Club. Neither from the records of the Cantonal Court, nor from the circumstances as a whole, does it follow that, by seeking passengers the defendant acted on behalf of the Zurich Club. Therefore, the Neuchâtel Aero-Club must be considered as the carrier.

It is true that the defendant was not the owner of the balloon and that the ascent was organized under the technical control of the pilot, Michel, appointed by the Zurich Club. But this is of no importance. The carrier is not the person who executes the contract of carriage but rather the person

who enters into it on his own behalf. It is not necessary for the carrier to meet his obligations by the use of his own equipment. He may, in fact, resort to the services of a third person, particularly by hiring or chartering an aircraft. This is what the Neuchâtel Aero-Club did. The conditions of March 31, 1953, refer to the hire of the balloon, as do several documents in the file, particularly the statement of accounts for the event and the defendant's letter of September 11, 1953. Consequently, the Zurich Club made an aircraft, and the necessary crew, available to the Neuchâtel Aero-Club for consideration, for a specified flight. Such a contract is one of charter. The fact that the defendant used the services of the Zurich Club to execute the flight did not disturb the former's capacity as carrier vis-a-vis Jaquet.

C. The texts, however, are not unanimous with regard to the person who is liable, vis-a-vis the passenger in the case of charter of aircraft. Some authors (Cuquoz, op. cit.—Le droit privé aérien, p. 92; Juglart, Trairé élémentaire de droit aérien, p. 325, No. 276; contra Riese, Précis de droit aérien, p. 408) consider that it is not the lessee, but the lessor, who assumes liability of the carrier under the Warsaw Convention.

This opinion may have some merit under the Warsaw Convention, which does not define "carrier." But it cannot be accepted within the framework of Swiss national law. In the first place, it would clash with the definition of "carrier" contained in Article 1, para. F RTA., the main object of which is the regulation of liability in air transportation. Accordingly, we must not refuse to apply the legal definition to determine the person liable vis-a-vis the passenger.

Furthermore, the liability established by the Warsaw Convention is of a contractual nature. The liability is not based on the risks peculiar to air navigation, but on the faulty non-execution of the obligations assumed by virtue of the contract of carriage. Therefore, it is in perfect conformity with the general principles of the Swiss civil law that the carrier—according to the meaning given in Article 1 para. f RTA—should be liable for damage due to the imperfect compliance with the contract, even when the aircraft has been chartered. In fact, under Article 101 CO, of the code, the contractual debtor is liable for the acts of persons to whom he has entrusted the execution of his obligations, e.g. sub-contractors. Now "auxiliaires" means not only the persons under the debtor's authority, like the debtor in an employment relationship, but all those to whom the debtor entrusts the performance of his obligation (RO 70 11 220). The lessor and his agents, or servants, are, so to speak, the "auxiliaires" according to this definition.

It follows that, in principle, the Neuchâtel Aero-Club, being the carrier, is liable for the damage suffered by Jaquet by the terms of Article 17 of the Warsaw Convention.

3. According to the provisions of Article 20 of the Warsaw Convention, the carrier is not liable, if he proves that he and his agents have taken all necessary measures to avoid the damage or that it was impossible for him or them to take such measures.

(a) According to Article 101 CO, the pilot, Michel, was the "auxiliaire" of the Neuchâtel Aero-Club, within the meaning of Article 20 of the Warsaw Convention. In fact, by reference to this Convention, the air transport regulation establishes for the national law of Switzerland a contractual liability, the principle of which does not differ from the Swiss common law regulations. Consequently, unless there is some specific provision, or some valid reason for it, the interpretation of this transport regulation must not depart from the rules on obligation contained in the Code. It follows, therefore, that under the air transport regulation, the concept of "préposé" (agent, servant) includes an "auxiliaire." In fact, while the words "ses préposés" of the original French text (Articles 20 and 25 of the Warsaw Convention)

are translated in German by "seine Leute," the air transport regulation—underlining in its Article 10, para. 2, the principle contained in Article 25 of the Warsaw Convention expresses the same idea—"ses préposés" (in the French text) by the German word "Hilfsperson," the very word by which the German text of Article 101 CO designated the "auxiliaire."

(b) In order to escape its liability, the Neuchâtel Aero-Club must prove that the pilot, Michel, has committed no fault. On this point, the Cantonal Court stated that the defendant "could only be made responsible for the damage suffered by Jaquet if he had committed a fault, or if he had been unable to take any other measures than the ones he took. The fact that the pilot, Michel, did not take sufficient lest could not be considered as a fault since this consideration is based on a mere opinion of the Air Office; and further, Michel claims that he had enough lest when he landed and had given the passengers the necessary instructions which would avoid an accident."

This reasoning of the trial judges contains an obvious error of facts: the report to which it refers was not issued by the Federal Air Offices but by the Federal Commission of Investigation, set up by virtue of Arts. 25 and 26 of the Federal Law on Air Navigation, and Arts. 131, 135 of the enforcement regulation. This Commission, presided over by a Federal judge and composed of qualified persons, is quite distinct and independent from the Air Office. The functions of this Commission are not alone confined to the administrative investigation, in fact they may be complemented by calling in experts. The Cantonal court therefore must have realized that the report was issued by this commission. One might ask if they would not have preferred this report to the defense of the pilot whose personal liability could have been involved. But it is not necessary to decide whether the Federal Court may, under Art. 63, para. 2 i.f. OJ, modify the decision on this point, for this decision must be set aside in any case in conformity with Arts. 52 and 64, para. 20J, because its motives are ambiguous and incomplete.

In the first place one does not know how the Cantonal Court allocated the burden of proof. If they have charged Jacquet with the burden of proving the fault of the defendant, or its agents in appeal, then they have broken Art. 20, para. 1 of the Warsaw Convention.

Furthermore, the part of the judgment concerning the amount of lest taken up is ambiguous: one does not know whether, in the opinion of the Cantonal Court, the pilot took enough lest, or whether, for that matter, without this being considered, a fault, he did not. The Neuchâtel Court therefore must clarify this point. Furthermore, the Court in judging this matter overlooked certain elements which may be important. For instance, they did not indicate whether the pilot had taken sufficient care in obtaining information on the meteorological conditions or whether, with more complete information, he might have taken more lest. In addition, they did not say anything about the tightness of the gas-envelope, nor did they say anything about the precautions which Michel should have taken in order to prevent a defect on this point. They will have to correct these omissions. At the same time they could probably review their findings in view of the fact that the report which imputes fault to the pilot was issued by the Federal Commission of Investigation and not by the Federal Air Office.

Finally, while the Neuchâtel judges have found that Michel gave the balloon's passengers the necessary instructions which would have avoided an accident, they did not say what these instructions were, so that it is impossible for the Federal Court to decide whether the pilot has committed a fault in this respect or not. They will also have to decide on the other objections which the appellant made against Michel.

The case must be sent back to the Cantonal Court in order that they

complete their judgment on all these points and decide it anew. If the Court considers that the pilot is guilty of a fault, they will also have to examine whether there was contributory negligence on the part of Jaquet.

TRIBUNAL DE VERSAILLES, FIRST CHAMBER: "DE FRANCESHI-HILLER HELICOPTERS." MARCH 12, 1957—1957 RFDA 276

Facts: On September 19th, 1953, test pilot Bernard Hébert, an employee of the Société Hélicoptair, a French corporation representing Hiller Helicopters in France, presented a helicopter to French military authorities at the aerodrome of Buc. During a 45 degree turn which was rather sharply begun at a height of about 100 ft., the tail rotor detached. The helicopter crashed, and the pilot was killed. His widow sued Hiller Helicopters, the manufacturers, for damages in the amount of 24 million French francs, pretending that the failure was caused by faulty design and faulty material in the tail rotor drive shaft.

The Court: As there were no contractual relations between defendant and deceased, and as the helicopter was not in the keeping of defendant, there is no presumption of liability against defendant (CCiv 1384), and plaintiff must prove a generating default (*faute génératrice*) of defendant. The principle of liability is determined by the law at the place where the default has been committed, and as the helicopter was designed and manufactured in California, the liability of the manufacturer is governed by the law of California. No such default is however proved by plaintiff, quite on the contrary: The deceased took a particular risk by engaging in spectacular evolutions from which he had previously been recommended by his superior to abstain, in addition to the risk which he had accepted by his profession and which arose from the uncertainties of a technique in full evolution.

Remarks: There is no reason why aircraft manufacturer's liability should be exempt from the general conflict of laws rule that delictual liability is determined by the *lex loci delicti commissi*. This rule seems to prevail in most legal systems, and in general the subsumption of aircraft manufacturer's cases will therefore take place without difficulties and as a matter of course (as to the U.S.A., cf. the recent decision in *Prashker v. Beech*, 1957 US & C Av R 247). It will, however, be very interesting to look out for an English decision under the rule laid down in *Phillips v. Eyre* (1870 L.R. 6 Q.B. 1, 28) which combines the lex fori and the lex loci delicti in a rather peculiar way. The distinction, *obiter dictum*, with regard to the risks assumed by deceased is remarkable and might prove useful in other cases: on the one hand, the normal professional risks attached to an activity on a rapidly progressing frontier of modern technology, already high if compared to other professional risks, on the other hand, the additional risk arising out of arbitrary *allotria* performed at this very frontier.—WERNER GULDIMANN (Zurich)

JUDICIAL AND REGULATORY DECISIONS

AVIATION RISK v. LIFE INSURANCE EXCLUSIONS

THE stigma of inherent danger associated with aviation since its inception has tended to confuse the relationship between the aviation risk and life insurance. As early as 1910, life insurance companies were confronted with the problem of death resulting from aeronautical activities.[1] The rapidly increasing popularity of aviation made this problem unique. Although adequate statistics were not available, insurance underwriters believed that persons who flew were poor insurance risks.

Since only a small segment of the public utilized air transportation, the life insurance companies introduced aviation exclusionary clauses into the policies of persons displaying an interest in air travel — clauses which excluded liability for death resulting from aeronautical activity.[2] The early attempts to limit liability were often unsuccessful,[3] but the problem was to become even more acute. As air transportation became an accepted and popular mode of travel, underwriters resorted to stringent exclusion clauses in almost all new policies. The courts, however, looked askance at these clauses, especially in cases relating to commercial scheduled airline passengers.[4] Repeatedly the courts held that these clauses did not contemplate airline passenger travel.[5] Multifarious interpretations were given similar clauses in order to circumvent

---

[1] Pacific Mut. Life Ins. Co. vs. Van Fleet, 47 Cal. 401, 107 Pac. 1087, 14 A.L.R. 986 (1910). The court refused to include the death resulting from a single balloon assent within the scope of a "hazardous occupation" exclusion clause.

[2] A typical clause denied recovery for any death ". . . as a result of travel or flight in or upon any kind of aircraft, or from falling or otherwise descending therefrom or therewith during said travel or flight . . ." McDaniel vs. California Western States Life Ins. Co., 181 F.2d 606 (5th Cir. 1950). Some exclusion clauses relate to double indemnity recovery only, but the legal problems are the same as clauses relating to full recovery. For a comprehensive history of early aviation exclusion clauses, see Glass, *Aeronautic Risk Exclusion in Life Insurance Contracts*, 7 JOURNAL OF AIR LAW AND COMMERCE 305 (1936).

[3] *Ibid.* Frequently prospective policy-holders were required to "warranty" any intentions concerning aeronautics. Refusing to uphold these warranties, courts frequently claimed that these warranties were hidden in a mass of small print and thereby ineffective. *Statutes Affecting Representations in Insurance Contracts*, 32, COLUM. L. REV. 522 (1932).

[4] The early decisions were primarily concerned with the use of particular phrases such as "engaged in aeronautics" and "participating in aeronautics" and the interpretations to be given these phrases in relation to airline passengers and airline personnel. 7 JOURNAL OF AIR LAW AND COMMERCE 305 (1936), 63 YALE L. J. 692 (1954), Annot., 99 A.L.R. 199 (1935), 17 A.L.R. 2d 1050 (1951), 45 A.L.R. 2d 462 (1956).

[5] See note 4, *supra*. Many courts interpreted "engaged" to mean occupational contact and thereby allowed recovery for an occasional passenger flight resulting in death. Masonic Accid. Ins. Co. vs. Jackson, 200 Ind. 472, 164 N.E. 628 (1929). A second rationale was to call the clause ambiguous and thereby construe it against the drafter-insurer. Peters vs. Prudential Life Ins. Co., 133 Misc. 780, 233 N.Y. Supp. 500 (Supp. Ct. 1929).

aviation exclusion.[6] Utilizing the principle that an ambiguous contract should be construed adversely to its drafters, the courts frequently allowed recovery where the apparent intent of the parties was to exclude aviation risks.[7]

From the confusion surrounding the aviation exclusionary clause, there eventually emerged a semblance of order.[8] The experience of early litigation caused the insurance underwriters to redraft the exclusion clauses.[9] Certain phrases deemed ambiguous by the courts were deleted in favor of phrases shown to be enforceable by previous litigation. The resulting clauses thus became more standard and allowed less judicial discretion.[10] In addition, and perhaps most important, the new clauses *did allow coverage* for passengers on scheduled commercial airlines.

Because the clause changes resulted in coverage for the scheduled airline passenger, the attitude of the courts toward aviation exclusion clauses showed a marked change. Almost fastidiously the written word of the policy was enforced by the courts.[11] The new clauses, however, offered no protection to either commercial flight personnel or private fliers. After World War II, the increased popularity of private flying created an obvious necessity for more extensive life insurance cover-

---

[6] See note 4, *supra.*

[7] Peters vs. Prudential Life Ins. Co., 133 Misc. 780, 233 N.Y. Supp. 500 (Supp. Ct. 1929).

[8] See note 4, *supra.*

[9] These new clauses generally followed this form: Operating or riding in any kind of aircraft except as a fare paying passenger in a licensed and scheduled commercial airliner.

[10] No recovery allowed in United Service Life Ins. Co. vs. Bischoff, 181 F.2d 627 (1950); McDaniel vs. California Western States Life Ins. Co., 181 F.2d 606 (5th Cir. 1950); McBride vs. Prudential Ins. Co.,.....Ohio....., 72 N.E. 2d 98 (1957). Since 1946, ambiguity has been the basis for recovery in these three cases: In Clapper vs. Aetna Life Ins. Co., 157 F.2d 76 (Cir. 1956), a policy written in 1929 provided exclusion if " . . . the death of insured occurs . . . from an aeronautic flight . . . " The court said no liability would result if the policy read "resulting from a flight" and then went on to define *aeronautic* according to Webster's Dictionary to mean the "science of operation of aircraft." The insured was a passenger in a Navy plane and not a member of the crew. While apparently relying upon the dictionary definition of aeronautic to allow recovery, the court concluded by declaring the policy ambiguous also.

In Faron vs. Penn Mutual Life Ins. Co., 179 F.2d 480 (Cir. 1948), the court did not directly call the exclusionary clause ambiguous (" . . . if the death of the insured resulted directly or indirectly . . . from aeronautic or submarine casualty . . ."), but intimated that this was the case. In holding against the insurance company, the court said that the insured, a passenger aboard a commercial airliner, although technically within the exclusionary clause would not, as a person of "ordinary business intelligence," interpret the clause to include airline travel.

In New York Life Ins. Co. vs. Atkinson, 5 CCH AVIATION L. REP. 17363 (10th Cir. Feb. 1957), *cert. denied,* (May 1957), the court held ambiguous an exclusionary clause that denied double indemnity payment should death result from " . . . service, travel, or flight in any kind of aircraft . . . while insured is participating in aviation training in such aircraft or is a pilot, officer, or other member of the *crew* of such aircraft . . ." (Emphasis added.) The decedent's job was to fly in a plane and operate an "aerial scintillometer" used to locate minerals beneath the surface of the earth. The court said the policy did not undertake to define the "crucial word crew" and that it was therefore ambiguous and should be construed in favor of the insured.

[11] See note 18, *infra.*

age.[12] An appreciable segment of the general public reflected an interest in private aviation and insurance coverage for such activity. The underwriters were faced with the alternatives of denying all coverage to aviators, allowing limited coverage employing exclusion clauses, charging increased premiums to cover the added hazard, or grant complete coverage irrespective of aviation risks.[13]

The alternatives presently employed by the underwriters depend to a great extent upon the amount, type of flying, and other circumstances surrounding the particular applicant. For the purpose of analysis it is therefore helpful to characterize the problems of civil aviation into the categories of commercial flight personnel, private business fliers, and private pleasure fliers.[14]

Commercial Flight Personnel[15]

Little litigation has arisen on the question of life insurance coverage for commercial flight personnel in recent years. It is therefore speculative how the courts will regard aviation exclusion clauses in policies owned by commercial aviators in the future. A 1951 decision in the Second Circuit, *Broidy v. State Mutual Life Assur. Co.*, involving a professional Air Force flier may indicate the rationale the courts

[12] SUMMARY OF CIVIL FLYING: 1934 to 1955

		1934	1940	1950	1954	1955
Total civil aircraft		8322	17928	92809	92057	85320
Hours flown	1000	846	3200	9650	8963	9500
Business	do	121	314	2750	3875	4300
Commercial	do	207	387	1500	1829	1950
Instructional	do	217	1529	3000	1292	1275
Pleasure	do	301	970	2300	1920	1975
Other	do	..	..	100	47	..

Condensed from STATISTICAL ABSTRACT OF THE UNITED STATES—1957

[13] INSTITUTE OF LIFE INSURANCE, LIFE INSURANCE FACT BOOK, pp. 43-44 (1953).

[14] Classifications are based upon dissimilarities in policies, statistics, and future potential of various phases of aviation. Also similarities as to general use of aircraft, occupational hazards, and need for additional life insurance coverage mark the various categories. The problems of military aviation will not be discussed except where they directly relate to one of the other classifications.

[15] SCHEDULED AIR CARRIERS—SUMMARY OF OPERATIONS—1934-1956

	1934	1940	1945	1950	1956
Route miles in operation	50801	95079	87401	183841	198528
Aircraft in service	522	437	518	1120	1543
Total personnel employed	6477	22051	68281	82786	131503
Total fatalities	38	45	115	95	50
Fatalities per 1,000,000 revenue miles flown—					
domestic	.70	.41	.42	.28	(not available)
international	1.19	0.00	.83	.58	(.03 in '55)

Condensed from STATISTICAL ABSTRACT OF THE UNITED STATES—1957.

Commercial flight personnel includes all members of the crew of any plane operated as a public carrier transporting freight or passengers for hire.

will employ in cases involving commercial flight personnel.[16] In allowing recovery, the court stated that to uphold an aviation exclusionary clause in the case of a professional flier would make an absurdity of the intention of the deceased at the time he entered into the insurance contract. The Broidy case, however, is inconsistent with the general trend of recent decisions. The more prevalent view is illustrated in *New York Life Ins. Co. v. Jones,* wherein the deceased, the pilot of a non-scheduled chartered airliner, was denied recovery on the grounds that the exclusionary clause was clear and unambiguous.[17] No attempt was made to distinguish the *Broidy* doctrine. Rather, the court relied upon the explicit words of the contract to deny recovery.[18]

Although several of these cases are not concerned with commercial flight personnel, they are authority for the proposition that where insured is a pilot by profession, the courts are reluctant to deviate from the wording of the policy in order to allow recovery even in instances where the intention of the parties to include the particular risk is doubtful. It must be assumed, notwithstanding the *Broidy* case, that the courts will give a rigid interpretation to the exclusion clause in the policies of commercial flight personnel and thereby deny recovery.

As commercial aviation became an established mode of transportation, the need for thorough but inexpensive life coverage for commercial flight personnel became critical.[19] Today most airlines provide group aviation life plans for all employees including flight personnel.[20] These plans provide unqualified coverage on the life of the employee

---

[16] 186 F.2d 490 (2d Cir. 1951).

[17] 224 F.2d 33 (5th Cir. 1955).

[18] A definite reluctance to look beyond the words of the contract has been evidenced in several recent decisions. In *Smith vs. Prudential Ins. Co.,* the Supreme Court of Missouri denied recovery under an aviation exclusion clause applicable to a "member of crew" of any plane. The deceased, an Air Force officer, "hitched" a ride on an Air Force plane for personal business. As senior officer on the plane he had been issued temporary duty orders designating him co-pilot. His duties, if any, were administrative and there was no evidence to show that he had anything to do with the operation of the craft. Nevertheless, it was held the decendent fell within the meaning of "member of crew" and therefore could not recover. The deceased in LeBreton vs. Penn Mut. Life Ins. Co., 223 La. 984, 67 So.2d 656 (1953), as in the *Broidy* case, was a military flier who was denied recovery under an aviation exclusion clause. The clause stated that no risk is assumed where the insured dies while " . . . member of crew of such aircraft or while the insured is participating in aviation training . . . " The deceased was not in fact a regular member of the crew but was only on the plane to gain proficiency in night flying. Disregarding an obvious opportunity to say the activity of the deceased was not within the contemplation of the exclusion, the court in fact ruled that the deceased's presence aboard the plane for such a purpose was sufficient to bring him within the meaning of "crew" even though he had no duties at the time the plane crashed.

[19] Commercial flight personnel as used hereafter includes pilots, co-pilots, stewards, stewardesses, pursers, and flight mechanics; but it does not include members of the armed forces flying military planes even though they may be professional aviators.

[20] A typical group policy is available to the employees of American Airlines, Inc., The Travelers Life Insurance Company of Hartford, Connecticut, issued the policy here-in-after described. This policy, Group Life Policy No. G12045 (as effective March 1, 1957), is available to all permanent personnel of American Airlines.

subscribers to the group plans.[21] These policies, however, are inadequate because the maximum coverage is proportional to the salary earned by the employee and is relatively low. This automatic maximum may not be sufficient to provide *adequate* protection to the insured and his beneficiaries.[22] The insurance need of an individual cannot realistically be based on his earning power, but rather should be based upon the particular needs of the individual.

Business Aviation[23]

Perhaps the most significant development in the field of aviation is the increased use of private air transportation for business purposes.[24] This has, in fact, become the largest single use of private civil aviation.[25] The insurance companies have failed to take cognizance of the increased importance of business flying and have failed to extend any extra benefits in order to protect this important aid to the business economy. Business flying has been treated the same as pleasure aviation and in fact grouped into one category usually called private flying.

Additional insurance protection should be afforded crews and passengers connected with business aviation. It is especially true that extra insurance recognition should be extended to business aviation

---

[21] "If death shall occur while the Employee is insured under this group policy in accordance with the terms, conditions, and provisions thereof, the amount of insurance in force thereunder on his life at the date of death will be paid to the beneficiary designated by the Employee."

This policy as available to American Airline personnel contains no exclusionary clauses. It is interesting to note, however, that the companion Group Accident Insurance Policy (Group Policy No. GA111740) issued by the same company explicitly excludes aviation risks.

[22] Class	Monthly Salary Or Wage	Amount of Life Insurance
I	Less than $ 150	$ 2000
II	$ 150 but " " 195	3000
III	195 " " 250	4000
IV	250 " " 300	5000
V	300 " " 400	7500
VI	400 " " 500	10000
VII	500 " " 600	12500
VIII	600 " " 700	15000
IX	700 " " 800	20000
X	800 " " 1000	25000
XI**	1000 " " 2500	35000
XII	2500 OR OVER	50000

** Represents maximum coverage for Flight Personnel.

[23] Business aviation contemplates pilots, crew, and passengers of planes owned and operated by business concerns in the course of business transactions.

[24] The CAA definition of business flying includes that done by individuals in their own, borrowed, or rented aircraft in connection with their occupation or company business. Business aviation as used in this article also includes the CAA corporate flying classification—flying in company owned or operated aircraft for transportation of their personnel (and/or other company business) and flown by professional pilots.

[25] See note 11, *supra*.

in contrast to pleasure flying.[26] On a public policy basis, the increased importance of aviation in conjunction with business warrants additional life insurance coverage for pilots and passengers of private business planes. An examination of the pressures exerted on the insurance companies by judicial decisions in the 1930's, which led to the deletion of "fare-paying passengers" from exclusion clauses, reveals how this can be accomplished if the companies do not do it voluntarily.[27] The courts cannot, however, be expected to exert this judicial pressure if the added burden in the insurance companies is out of proportion to the benefit to be gained by the public.[28] Statistics indicate that insurance companies can give the needed protection to business flying without additional costs. In 1954, business and corporate aviation was credited with 552,610,000 miles flown. Sixty-one deaths resulted in these categories over the same period.[29] In other words, the business aviation classification averaged .11 deaths per 1,000,000 miles flown. In 1956, 90 fatalities resulted from 627,800,000 miles flown for an average of .14 fatalities per 1,000,000 miles flown.[30] In the light of these statistics and the immense benefit that insurance coverage would provide for business, life insurance companies should re-evaluate aviation exclusion for business flying and extend maximum protection to this phase of aviation. Arguments may be constructed comparing business flying to commercial passenger and commercial flight personnel, and adept manipulation of the statistics will allow these arguments to favor more or less protection for business flying, as the individual desires.[31] It is not, however, necessary to resort to this comparison. The small number of deaths attributable to business aviation in relation to the benefit to be gained by the general public is alone sound and sufficient reason to extend life insurance coverage to the field of business flying.

Pleasure Aviation[32]

Pleasure flying promises to be the most difficult area in which to resolve the life insurance problem. Except for certain extra-hazardous occupations,[33] pleasure flying is the most dangerous classification. In 1954, pleasure flying accounted for 209,980,000 miles and 330 deaths—an average of 1.49 deaths per 1,000,000 miles. In 1955, 1.75 deaths per 1,000,000 miles flown. Obviously, these *do not* compare favorably with

---

[26] This assumes there is a need to deny coverage for pleasure flying—this problem will be discussed at length in a later section. The distinct statistical and policy differences warrant the separate discussions.

[27] 63 YALE L. J. 692 (1954).

[28] JOHNSON, LIFE INSURANCE IN THE DEVELOPMENT OF AVIATION (WEEKLY UNDERWRITER No. 1329 Nov. 28, 1953).

[29] See note 25, *supra*.

[30] See note 11, *supra*, for source of statistics.

[31] The relative figures for commercial flight and private flying cannot be reconciled because of the fact that airline statistics are in passenger-miles and private planes in miles flown.

[32] Pleasure aviation includes pilots and passengers of private planes operated for pleasure or other non-business, non-commercial purposes.

[33] Crop-dusting, test pilots, flight instruction, etc.

commercial airlines or business flying. Unless other factors influence the situation, these "unfavorable" statistics definitely provide a justification for excluding pleasure flying from life insurance coverage.[34]

Pleasure flying, although not as popular as airline or business flying, has an important place in the present aviation picture and promises even more potential in the future. It would definitely be a point of concern if no life insurance were available to pleasure flyers. Several insurance alternatives, however, are available to the private pleasure flier. Many companies will issue the usual type of life insurance to persons who take part in aviation if the applicant agrees to pay additional premiums to cover the added risk. The life insurance underwriter is faced with charging a premium which represents the class of risk to which the applicant belongs.[35] Applicants who are engaged in aviation as a profession are relatively easy to classify, but the pilot with aviation as a hobby is a much more difficult problem.[36] Persons who are not now pilots but who show an unusual interest in aviation and who have a better than average chance of taking up the hobby in the future are another difficult problem.[37] Aviation involves some extra risks and applicants subject to this extra risk, out of fairness to the present and future policy-holders of the company, must either be charged an extra premium or the extra risk should be excluded from the coverage of the policy.[38] The added premium is not a satisfactory answer to the problem of insuring pleasure flying.[39] The added premiums are very often too expensive to make them practical.[40] Moreover, this solution is only beneficial to persons who regularly participate in aviation. It in no way affords adequate protection to the occasional passenger who neither can afford the expense since he flies only occasionally and who in fact probably does not even consider the aviation problem when applying for insurance.

---

[34] One possible justification is the comparative safety figures of pleasure flying and auto transportation. In 1954 automobile transportation showed 2.6 fatalities per 1,000,000 passenger miles. This figure increased slightly to 2.7 in 1955. However, the greater percentage of the public using auto transportation and then distributing the cost over the general public. In 1955 there were only 418,359 private certified airplane pilots in the country.

[35] PAFF, LIFE INSURANCE UNDERWRITING OF AVIATION RISKS (INSPECTION NEWS June 1947). Mr. Harold G. Paff was Actuarial Supervisor for Prudential Insurance Company at the time he wrote this article.

[36] *Ibid.*

[37] *Ibid.*

[38] *Ibid.*

[39] These alternatives are available for the business flier as well as the pleasure flier. This in no way, however, qualifies the author's contention that business aviation should be covered by regular life insurance policies. Alternatives are not substitutes. They are only advocated when it is not feasible to give adequate coverage with regular life insurance and to supplement coverage afforded by regular insurance.

[40] It is not within the scope of this article to consider the details involved in making a determination of the relative expense of insurance premiums. This can only be accurately determined in relation to all of the provisions of the policy. To say that added premiums are expensive is a categorical statement which may be inaccurate in any single instance.

Another popular life insurance alternative is group insurance acquired through membership in flying organizations such as the Aircraft Owners and Pilots Association. The AOPA plan which is underwritten by an established insurance company,[41] was inaugurated in 1951 and became an immediate success.[42] The original plan offered a maximum coverage of $5,000, but it has now been extended to $20,000. Membership in AOPA and a CCA medical certificate are the only requirements foreign to any other life policy. The principal limitation to these plans is that *only* pilot-members are covered, and they fail to cover passengers who are not members of the AOPA and policyholders. The general availability to active pilots, coupled with the reasonable premiums, has gone a long way toward extending adequate life insurance coverage into the field of pleasure aviation. Group plans, like added premiums, do not make available coverage for guest passengers in private planes. It may be feasible for the insurance companies to cover guests in private planes if the statistics are properly evaluated and pilots are excluded from the risk. It may be, however, that the burden placed upon the insurers is too great—in which case protection must be denied because the private pleasure passenger is such a small segment of the population. Only when the protection extended will benefit an appreciable portion of the general public should pressure be exerted upon the insurance companies to afford coverage.

One last facet of aviation must be considered in relation to private flying—Admitted Liability Insurance. Admitted liability aircraft coverage is designed exclusively to cover the guest-passenger in a private plane.[43] This insurance covers any guest in a private plane regardless of legal liability, but as well as being very expensive, it affords no protection to the pilot or crew. This insurance is especially well adapted to aircraft passengers who are usually friends, relatives, or business acquaintances, since it satisfies the natural desire to offer some payment, regardless of legal liability, to such personal acquaintances who are killed as a result of flying in the insured's plane. These voluntary payments also tend to minimize the possibility of costly litigation.

The problem of insuring pleasure flying is complex and difficult. It is not yet safe enough to stand side by side with airline aviation and demand coverage.[44] Pilots can, however, obtain coverage by paying

---

[41] Minnesota Mutual Life Insurance Company.

[42] The response of the AOPA insurance plan is evidenced by the fact that $25,000,000 worth of insurance is in effect under this plan.

[43] UNITED STATES AIRCRAFT INSURANCE GROUP, AVIATION INSURANCE HANDBOOK.

[44] STEWART, AVIATION INSURANCE (1946). "A study of statistics which had been compiled over a period of years showed rather startling results, namely, that pilots who flew for pleasure and mostly over weekends had no better loss ratios than the professional pilots who flew every day. In short, the fewer number hours of exposure in the air, in the case of private fliers, was compensated for in the case of the professional pilots by their greater skill as airmen. Professional pilots spend much more time in the air and by and large have just as many accidents as the private fliers, but more professional pilots are able to walk away from their accidents than are private fliers from theirs."

additional premiums or through membership in flying associations. Protection can be extended to passengers with admitted liability insurance; but in many cases, this is too expensive. Admitted liability is more readily adaptable to business firms that wish to cover their executives, employees, customers, and other guests who fly in company planes.

In general, pleasure flying does not merit comprehensive insurance coverage at the present time. However, as the safety record of this phase of aviation improves, additional insurance must be made available.

Conclusion and Recommendations

The aviation exclusionary clause emerged early in the history of air travel. It was fostered by the inherent danger surrounding aviation, coupled with the scarcity of statistics relating to aeronautics. Unable to obtain the necessary statistical data for proper premium formulation, the underwriter simply excluded any aviation risk from the scope of the policy.

As aviation made technological advances resulting in safer aeronautical participation and as statistics reflecting this increased safety became increasingly available, the need for the exclusion clause diminished. The insurance underwriter has taken cognizance of these facts and more extensive life insurance coverage is available to commercial flight personnel and private aviators by means of group policy plans. Persons fiying on scheduled commercial airlines are covered in most instances by the regular life insurance contract while passengers in private aircraft are eligible for protection under admitted liability insurance. In addition, persons who are willing to pay an added premium for protection from aeronautical risks will often find additional insurance available to them.

Several fields of aviation still find the available insurance inadequate. In these particular fields it is necessary to examine the accident statistics in relation to the benefit occurring to the general public from more coverage to determine whether additional insurance is advisable. Pleasure flying is becoming increasingly popular and important, but until the hazards promulgated by this activity are reduced, it is too great a financial burden to require the insurance companies to extend their liability into this field. Passengers in private planes do not merit additional protection as the hazard involved is too great in relation to the small segment of the population involved. Commercial flight personnel are covered under group plans but are limited to a relatively small amount of insurance. The safety record compiled by these professional fliers do not merit an arbitrary maximum and insurance in greater quantities should be available. Passengers on *scheduled* commercial flights are covered by most life insurance policies—a statistical analysis should be conducted by the underwriters to determine whether the distinction between scheduled and non-scheduled flights merits

denying coverage to the latter. The most pressing need for revision of present policy is in business flying, which has become an indispensable part of the business economy. The importance of business flying would in itself warrant protecting its participants; but, in addition, an enviable safety record has been compiled by business fliers. If the insurance companies do not recognize the advisability of extending insurance to this field, it will be up to the courts to exert pressure on the insurers. This may be done by allowing recovery *despite* the explicit wording of the contracts with the justification that the public policy demands insurance coverage in this indispensable phase of aviation.

The key-note of aviation is progress — so it must be with aviation insurance. A constant vigil must be maintained to insure maximum life insurance protection for persons participating in aeronautical activities.

DIGEST OF RECENT CASES

AIRPLANE CRASH — NEGLIGENCE — AIRLINE METEOROLOGICAL DEFICIENCIES

Stiles v. National Airlines

5 CCH Aviation L. Rep. 18,028 (E.D. La. March 27, 1958)

Defendant airline was charged with negligence for allowing a flight into a storm area meteorologically described as "severe turbulence." Two and a half hours before defendant's airliner crashed due to the adverse weather conditions, an earlier flight of the same airline had engaged the storm, but upon landing, the pilot failed to report the encounter. Held negligent to dispatch a flight into turbulent weather when the airline had knowledge or the means of obtaining knowledge of the presence of such weather.

MUNICIPAL AIRPORTS — FACILITY LEASE AGREEMENTS — ARBITRATION PROVISIONS

Louisville etc., Air Board v. American Airlines

5 CCH Aviation L. Rep. 18,034 (W.D. Ky. April 15, 1958)

Plaintiff Air Board entered into leasing agreements with the defendant airlines, said leases containing renewal option clauses and providing for an impartial arbitration board to determine the rent for the extended term in the event the contracting parties could not agree. Upon renewal of the option and failure of the parties to arrive at a mutually satisfactory rental, the Air Board brought suit and asked for a summary judgement. The airlines moved the proceedings be stayed until arbitration shall be had in accordance with the original lease. The court held the Air Board was an instrumentality of the Commonwealth of Kentucky, vested with public, governmental, and municipal powers, and as such comes within the general rule that discretionary duties of a public agency, as distinguished from ministerial duties, cannot be delegated. It was therefore concluded that the contract clause pertaining to arbitration was an unlawful delegation and consequently void.

LOW FLYING AIRCRAFT — TRESPASS — AVIATION EASEMENTS — CONDEMNATION PROCEEDINGS — EQUITY OR LAW

Gardner et al. v. County of Allegheny et al.

5 CCH Aviation L. Rep. 17,997 (Pa. June 3, 1958)

Claiming low flights from the county-owned airport to be a nuisance and a trespass to their realty, adjoining landowners sued the county as well as the commercial airlines operating out of said airport, asking for injunctive relief against such activities and in the alternative for damages for "taking" of their property. The Pennsylvania Supreme Court said that the complaint filed in equity was proper for asking injunctive relief, but a court of equity could not assess damages for the trespass. In this instance, the county being a defendant and the plaintiff electing to pursue its remedy for damages rather than an injunction, the plaintiff must choose between an action for trespass or proceedings in condemnation against the county. Held proper that the present equity action be stayed until the adjudication of the eminent domain proceedings or the trespass action which may be brought by the plaintiff against some or all of the defendants.

CURRENT RESEARCH

A STUDY OF AIRLINE INTERSTATION TRAFFIC*

By Daniel M. Belmont

Associate Research Engineer, Institute of Transportation and Traffic Engineering, University of California

THIS report presents a simple formula describing normal airline traffic and yielding estimates that are in reasonable agreement with observed traffic.

Definitions

The following definitions apply throughout this discussion:

Total traffic (T_i): the number of domestic airline passengers originating or terminating at a given center, i, in a given period.

Interstation traffic (T_{ij}): the number of domestic airline passengers making the trip between centers i and j; the common portion of the total traffic of two centers.

Long distance: more than 800 miles.

Medium distance: 400 to 800 miles.

Factors Influencing Traffic

Interstation traffic is influenced by a variety of factors, of which the principal ones may be:**

1. Size—the number of potential air travelers at each station. Population, income level, characteristic economic activity, etc., may be included among the components of this complex factor.
2. Cost—of the trip between the stations, in time and in money.
3. Economic bonds between the stations.
4. Service—at the two stations, including location of facilities and relative quality of airline and competitive services.
5. General—such as economic conditions, travel desire, and willingness to fly.

A complete theory of interstation traffic would have to include all such factors and in quantitative form, a formidable task indeed. It happens, however, that on many of the most important routes the interstation traffic depends primarily on a single quantitative variable. This makes possible an approximate theory which has fairly wide direct applicability and which may serve as a useful base for future elaboration.

It will be shown that, on many routes, interstation traffic depends primarily upon the product of the total traffic of the terminal stations. Such routes are here called "normal" routes. The dominant variable is the total traffic of a center. It reflects the effective size of the center; it incorporates also, at their average values for the center, many of the other factors; it is a definite quantity.

---

* Research Report No. 26, Institute of Transportation and Traffic Engineering.

** For a recent discussion of factors, and for a general method and conclusion different from those of this paper, see Richmond.[1]

[1] Richmond, Samuel B., "Interspacial Relationships Affecting Air Travel," *Land Economics*, February 1957, Vol. 33, No. 1.

TABLE 1—INTERSTATION TRAFFIC ON MAJOR NONSTOP ROUTES
September 17-30, 1955

i	j	Interstation Distance	Total Traffic i	Total Traffic j	Interstation Traffic Observed	Interstation Traffic Estimated*	% Error of Estimate**
Long Distance							
Chicago	Boston	859	175,732	72,175	4,310	4,559	— 5
	Los Angeles	1,751		124,155	7,056	6,409	+10
	New Orleans	828		24,562	945	1,319	—28
	San Francisco	1,856		98,600	4,717	4,785	— 1
	Seattle	1,896		34,761	1,254	1,408	—11
Los Angeles	Dallas	1,245	124,155	37,562	1,169	1,222	— 4
	Kansas City	1,368		29,498	1,044	887	+18
	New York	2,475		327,670	14,931	11,490	+30
	St. Louis	1,596		37,791	1,259	1,111	+13
	Washington	2,331		92,721	2,668	2,706	— 1
New York	Dallas	1,381	327,670	37,562	2,920	3,627	—19
	Denver	1,632		26,822	2,062	2,287	—10
	Houston	1,430		31,573	3,043	2,921	+ 4
	Kansas City	1,104		29,498	2,215	2,998	—26
	Minneapolis	1,020		31,833	3,468	3,385	+ 2
	New Orleans	1,186		24,562	2,926	2,353	+24
	St. Louis	888		37,791	4,539	4,373	+ 4
	San Francisco	2,580		98,600	10,146	8,638	+17
Washington	Dallas	1,183	92,721	37,562	709	888	—20
	Denver	1,509		26,822	773	543	+42
	Houston	1,220		31,573	690	716	— 4
	New Orleans	971		24,562	673	587	+15

TABLE 1—INTERSTATION TRAFFIC ON MAJOR NONSTOP ROUTES
September 17-30, 1955

i	j	Interstation Distance	Total Traffic i	Total Traffic j	Interstation Traffic Observed	Interstation Traffic Estimated*	% Error of Estimate**
San Francisco	Dallas	1,531	98,600	37,562	592	858	—31
	Kansas City	1,507		29,498	641	652	— 2
Dallas	Cincinnati	854	37,562	24,381	235	214	+10
Medium Distance							
Chicago	Atlanta	592	175,732	37,397	1,861	2,469	—25
	Dallas	795		37,562	2,049	2,141	— 4
	Kansas City	405		29,498	3,708	2,188	+69
	New York	724		327,670	27,963	28,500	— 2
	Pittsburgh	420		47,360	3,985	3,743	+ 6
	Washington	600		92,721	5,895	7,071	—17
New York	Atlanta	762	327,670	37,397	3,977	4,602	—14
	Cincinnati	585		24,381	3,385	3,115	+ 9
	Cleveland	417		52,418	8,942	8,728	+ 2
	Columbus	479		17,968	2,381	2,369	+ 1
	Dayton	549		17,691	2,512	2,200	+14
	Detroit	511		76,067	12,730	12,390	+ 3
	Indianapolis	659		19,501	1,981	2,287	—13
	Milwaukee	739		20,511	2,836	2,315	+23
Washington	Boston	399	92,721	72,175	3,691	2,965	+24
	Detroit	415		76,067	2,299	3,102	—26

* by formula (5)
** $\frac{\text{Observed-Estimated}}{\text{Estimated}}$

Restriction of this study to normal routes avoids the difficulty of quantifying the most troublesome factors. This is at the cost, of course, of ignoring some very interesting routes—those on which traffic is strongly influenced by special intercommunity ties or by exceptional quality of air service. There remain for analysis, however, a large number of routes covering very wide ranges of traffic and distance. There is, moreover, reason to suppose that the abnormal routes may best be studied in terms of deviations from the normal pattern.

The cost factor turns out to be rather unimportant for long-distance routes (i.e., differences in cost account for little of the differences in traffic), and of only secondary importance for medium-distance routes. The cost factor is apparently well enough and very conveniently represented by the interstation distance.

Regression Analysis of 1955 Data

The travel data used in this analysis are from the domestic section of the Civil Aeronautics Board survey of 1955.[2] The data are for tickets sold but are here taken to represent passengers carried. Chosen for analysis were the long-distance routes between the 25 largest centers, and the medium-distance routes included in the 100 routes ranking highest in interstation traffic. From these, certain routes were excluded for reasons discussed below. Remaining as the basis for mathematical analysis were 41 routes involving 23 centers. These are listed in Table 1.

Shown for each station-pair are the interstation distance, the total traffic of each station, and the interstation traffic. These data were used to find a formula relating interstation traffic to total traffic and interstation distance. The resulting estimates of interstation traffic are shown in Table 1, together with their relative deviations from the actual interstation traffic. These results are shown also in Fig. 1.

In a previous paper,[3] based on 1954 data, it was found that, on long-distance nonstop routes, interstation traffic tended to be independent of distance and to be roughly of the form

$$T_{ij} = k\,T_i T_j \tag{1}$$

where T_{ij} is the interstation traffic, T_i the total traffic at i, and T_j the total traffic at j. This formula showed enough agreement with the data to suggest that for such routes, an expression could be found of the form

$$T_{ij} = k\,(T_i T_j)^p \tag{2}$$

which would represent the data with useful adequacy.

The analysis of the 1955 data covered medium-distance routes as well as long-distance routes, and it was found that distance was here a significant factor. To include the effect of distance, D, formula (2) was generalized to

$$T_{ij} = \frac{k\,(T_i T_j)^p}{D^q} \tag{3}$$

In fitting the formula to the data, it was convenient to use the logarithmic equivalent

$$\log T_{ij} = c + p \log (T_i T_j) - q \log D \tag{4}$$

This form has the important advantage also of permitting the minimizing of relative rather than absolute deviations.

---

[2] Civil Aeronautics Board, *Origin-Destination Airline Revenue Passenger Survey, Sept. 17-30, 1955.*

[3] Belmont, Daniel M., "A Pattern of Interstation Air Travel," *Transactions*, American Society of Civil Engineers, 1957.

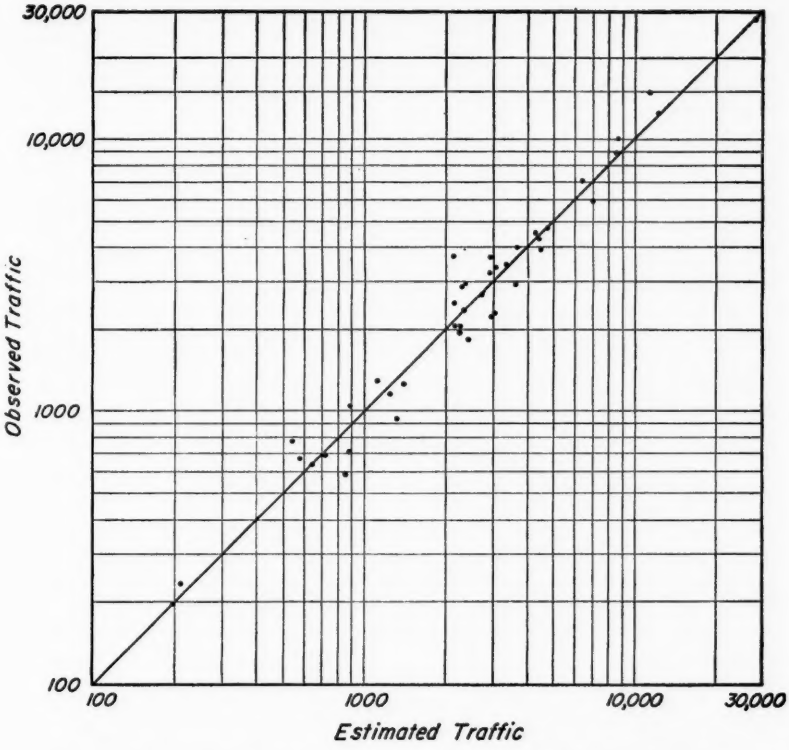

Fig. 1 - OBSERVED vs ESTIMATED INTERSTATION TRAFFIC 41 NONSTOP ROUTES, SEPT. 17-30, 1955.

Formula (4) was fitted to the 41 routes of Table 1 by the usual method of least squares to obtain

$$\log T_{ij} = -6.90755 + 1.164780 \log (T_i T_j) - .40950 \log D \qquad (5)$$

with the correlation index $R^2 = .962$.

The estimates of interstation traffic generated by this formula are those shown in Table 1 and in Fig. 1. Their average error is 14.7%. In view of the great range of interstation traffic (200 to 28,000) and of distance (400 to 2,600 miles), the substantial differences in quality of air service, the existence of special economic ties on some routes, and the inevitable random traffic fluctuations, it is remarkable that the formula yields such accurate estimates.

For the routes analyzed, the size factor (the total traffic of a center) is dominant in determining interstation traffic; distance is of significance only for the medium distance routes. (A statistical examination of the significance of the distance factor is given in the Appendix.) All other factors combined account for a comparatively insignificant part of the variation in interstation traffic.

It may be worthwhile to emphasize the extraordinarily simple primary structure of long-distance interstation traffic. The long-distance routes listed in Table 1 may be described by formula (2):

$$T_{ij} = k\,(T_i T_j)^p$$

This formula, in its best-fitting logarithmic form, has the correlation index $R^2 = .964$, indicating that it accounts for practically all the observed variation in interstation traffic. If we write

$$C_i = k^{1/2}\,(T_i)^p$$

$$\text{we obtain} \quad T_{ij} = C_i C_j$$

exhibiting the structure of long-distance interstation traffic in its simplest form. The formula asserts that each station has a characteristic traffic index, C_i, such that normal long-distance interstation traffic is just the product of the traffic indices of the terminal stations.

There is a serious shortcoming in the formula: it is dimensionally unpleasant. The value of k varies with the period in question and with changes in the relative values of the T_i's in not too obvious a manner. A closer examination of the index C_i and a discussion of its use in forecasting is proposed for a future paper.

Routes Excluded from Analysis

The routes of Table 1 were selected from the major domestic routes to meet the following conditions:

1. *Nonstop service.* The traffic figures used included also traffic with one or more stops, but the existence of at least some nonstop flights establishes a reasonably satisfactory minimum service level, preventing too wide a spread in the quality of air service offered on the several routes. Substantial differences do occur in frequency and convenience of flights, and these no doubt account for some of the differences between observed and estimated traffic.
2. *Interstation distance of at least 400 miles.* The 400-mile limit may not be critical. At shorter distances, however, it is known that special community of interest between centers becomes more probable and that the effects of competing modes of transport complicate the relationship between distance and air travel.
3. *Normal interstation traffic.* The concept of normalcy may best be explained negatively. Certain routes, described below, were expected to carry traffic well above the normal pattern. The remaining routes were considered to be normal. It was not known in advance how well these normal routes could be described by formula (3). (The two "normal" routes most poorly fitted by the formula, Chicago-Kansas City and Washington-Denver, might reasonably have been considered abnormal. Their exclusion would not seriously affect the parameters of the best-fitting formula.)

The excluded routes and their traffic as observed and as estimated by formula (5) are:

Route	*Observed Traffic*	*Estimated Traffic*
Florida-North, such as:		
Miami-Chicago	5,409	2,895
Minneapolis-Seattle	707	218
Philadelphia-Chicago	4,474	2,784
Philadelphia-Detroit	3,691	1,189
Western routes under 1200 miles such as:		
San Francisco-Portland	3,529	619
Los Angeles-Denver	2,175	965

The Florida routes were obvious candidates for exclusion; traffic is abnormally heavy to the north and abnormally light to the west.

The western routes under 1200 miles were omitted as a result of the previous study.[2] Western distances affect air traffic differently from eastern distances, largely because in the west neighboring cities with strong community of interest may be very many miles apart. Minneapolis and Seattle may be considered an extreme example of such neighbors. Only after the distance factor becomes negligible (usually beyond 1200 miles) do the western cities fall into the eastern pattern.

Philadelphia is a special case. Its traffic with Chicago and Detroit is perhaps not exceptionally heavy, but its total traffic is exceptionally small. Consequently it should be expected to be fit well into formula (5). The abnormality derives from Philadelphia's closeness to New York, as a result of which Philadelphia's total traffic receives almost no contribution from the New York route. If these cities were farther apart the increase in Philadelphia's total traffic might reasonably be great enough to bring the formula's estimate of traffic with Chicago and with Detroit into at least fair agreement with the observed figures. (The Detroit traffic would remain, however, much the heavier compared with the estimated traffic.)

Distance and Air Travel

The following considerations may help to explain why the distance factor has an insignificant effect on normal long-distance airline traffic (and only a relatively small effect on medium-distance traffic).

For short trips, there is a well-known and marked tendency for trip frequency to decline with trip length. The chief reasons for this appear to be that, for distances up to a few hundred miles:

1. Economic ties tend to be stronger between nearby centers than between more distant ones.
2. The concentration of personal acquaintances tends to diminish with distance.
3. Short trips are frequently undertaken for purposes for which longer trips would be rejected.
4. The closest destination is usually chosen for the many trips whose purpose could be equally well served at several destinations.

None of these factors apply with much force to sufficiently long-distance domestic airline travel on well-served routes. For distances greater than a thousand miles or so:

1. Business trips are motivated primarily by the size of the market rather than by its location.
2. The number of one's friends is more likely to depend upon the size of a community than upon its distance.

(There may of course be special community of interest between centers very widely separated. But such special ties are exceptional at long distances; they are the rule only at short distance.)

3. Long trips are comparatively seldom undertaken by air when still longer trips would be rejected. The difference in time is usually negligible. The higher cost of the longer trips is largely counter-balanced in its effect upon trip frequency by the greater advantage of travel by air over travel by competing modes.
4. Long-distance trips are comparatively seldom determined by the relative distance of otherwise equivalent destinations. Long trips are

seldom required for purposes which could be served equally well at alternative destinations.

CONCLUSIONS

A very simple model has been presented which usefully represents normal interstation traffic. It should serve as a guide in forecasting and perhaps as a foundation for a theory broad enough to cover also the abnormal cases. There is a tendency, of course, for "normal" to mean those cases which fit the theory. But even if there were here no better definition of "normal," the number and variety of routes to which the theory does apply would justify its presentation.

It appears that special community of interest between centers has important influence on interstation traffic only in exceptional cases. On most of the routes here considered, the terminal stations have, so to speak, an agreeable anonymity. Only their traffic indices, and perhaps their interstation distance, play a significant role in determining the interstation traffic.

APPENDIX

Formulae

$$\log T_{ij} = \log k\,(T_iT_j)^p = c + p \log (T_iT_j) \qquad \text{(a)}$$

and

$$\log T_{ij} = \log \frac{k\,(T_iT_j)^p}{D^q} = c + p \log (T_iT_j) - q \log D \qquad \text{(b)}$$

were fitted to the data of Table 1 by the usual method of least squares to obtain the following results:

	Long-distance routes	*Medium-distance routes*	*Combined routes*
Formula (a):			
n	25	16	41
c	—7.61881	—7.06679	—7.94109
p	1.106220	1.068689	1.145786
R_a^2	.9640	.8878	.9114
Formula (b):			
n	25	16	41
c	—7.30565	—5.78927	—6.90755
p	1.152823	1.122260	1.164780
q	.24592	.66133	.40950
R_b^2	.9687	.9326	.9619
F-test:			
$R_b^2 - R_a^2$	not significant at 5%	significant at 5%	significant at 0.5%

where: n is the number of routes analyzed,

c, p, and q are the constants of best fit for the formulae,

R^2 is the associated correlation index, and

F-test shows the significance of the improvement of R_b^2 over R_a^2.

It is seen that the distance factor is highly significant for the combined routes, but that its effect is largely limited to the medium-distance routes.

For the combined routes, the use of the single formula (b) was compared with the use of separate formulae of type (b) for the long- and medium-distance routes respectively. The gain in R^2 for the latter was far below significance at the 5% level.

BIBLIOGRAPHY

CURRENT LITERATURE ON AVIATION

BOOKS AND PAMPHLETS

Air Cargo, Inc. PICK-UP AND DELIVERY HANDBOOK. Washington, Air Cargo, Inc., 1958. 49p.

Air Transport Association of America. AEROFLOT; RED STAR IN THE WEST. A BACKGROUND MEMORANDUM. Washington, The Association, 1958. 30p.

Air Transport Association of America. CAREER OPPORTUNITIES WITH THE AIRLINES. Washington, The Association, 1957. 75p.

Air Transport Association of America. THE CIVIL JET AGE, A LOOK AT TOMORROW: THE HOW, THE WHAT AND THE WHY OF THE JET AIRLINER. Washington, The Association, 1958. 23p.

THE AIRWAYS MODERNIZATION BOARD; ITS MISSION AND METHODS. Philadelphia, Journal of the Franklin Institute, 1958. 160p. (Journal of the Franklin Institute Monograph No. 5.)

AVIATION FACTS AND FIGURES 1958. Official Publication of the Aircraft Industries Association, Inc. Washington, American Aviation Publications, 1958. 135p. $1.50.

Bois-Juzan, Yves Daniel de. NAISSANCE D'UNE LIGNE. Paris, Amiot-Dumont, 1958. 227p.
Account of the development of Air France's route to the Far East.

Cheng, Bin. CENTRIFUGAL TENDENCIES IN AIR LAW. London, Stevens & Sons, Limited, 1958. 29p.
Reprinted from *Current Legal Problems*, 1957, p. 200-228.

CIVIL AIR REGULATIONS AND FLIGHT STANDARDS FOR PILOTS. 19th ed. Los Angeles, Aero Publishers, 1958. 96p. $2.25.

Dutoit, Bernard. LA COLLABORATION ENTRE COMPAGNIES AERIENNES. Ses formes juridiques. Lausanne, Henri Jannin, S. A., 1957. 210p.
Dissertation, University of Lausanne.

Eckener, Hugo. MY ZEPPELINS. Translated from the German by Douglas Robinson; with a Technical Chapter by Kurt Eckener. London, Putnam & Co., Ltd., 1958. 216p. 21s.

Hanning-Lee, Murial. HEAD IN THE CLOUDS. London, Hodder & Stoughton, 1958. 191p. 12s 6d.
Autobiography of a British airline hostess.

Heymann, Hans, Jr. A BRIEFING ON THE SOVIET ROLE IN INTERNATIONAL CIVIL AVIATION. Santa Monica, Calif., The Rand Corporation, 1958. (U. S. Air Force Project Rand Report B-30-1.)

Institut Français de Transport Aérien. EXISTING FORMS OF COMMERCIAL AND TECHNICAL CO-OPERATION BETWEEN EUROPEAN AIRLINES IN REGIONAL AIR SERVICES. Montreal, International Civil Aviation Organization, 1958. 217p. (ICAO Circular 28-AT/4.) $1.25.

International Civil Aviation Organization. TRAFFIC FLOW, MARCH 1956. Montreal, International Civil Aviation Organization, 1958. (*Its* Digest of Statistics No. 64, Series TF-19.) $3.50.

Peng, Ming-Min. LE STATUT JURIDIQUE L'AERONEF MILITAIRE. La Haye, Martinus Nijhoff, 1957. 129p.

Taylor, Frank J. HIGH HORIZONS, DAREDEVIL FLYING POSTMEN TO MODERN MAGIC CARPET—THE UNITED AIR LINES STORY. Rev. ed. New York, McGraw-Hill Publishing Company, 1958. 237p. $4.00.

U. S. Civil Aeronautics Administration. AIRLINE AIRPORTS. Washington, U. S. Govt. Print. Off., 1958. 52p. $ .65.

U. S. Civil Aeronautics Administration. COMMERCIAL PILOT EXAMINATION GUIDE. 1956 ed., reprinted with corrections. April 1958. Washington, U. S. Govt. Print. Off., 1958. 28p. $ .75.

U. S. Civil Aeronautics Administration. FEDERAL AIRWAYS PLAN, FISCAL YEARS 1959-1963. Washington, U. S. Govt. Print. Off., 1958. 67p. $ .60.

U. S. Civil Aeronautics Administration. JET AGE PLANNING. A REPORT OF PROGRESS AND DEVELOPMENTS AS OF JANUARY 1958. Washington, U. S. Govt. Print. Off., 1958. 41p. $ .30.

U. S. Civil Aeronautics Administration. NATIONAL AIRPORT PLAN FOR 1958. Washington, U. S. Govt. Print. Off., 1958. 161p. $1.00.

U. S. Civil Aeronautics Board. ADVANCE IN AIR SAFETY: SUPPLEMENTAL REPORT. Washington, U. S. Govt. Print. Off., 1958. 30p. $ .15.

U. S. Civil Aeronautics Board. RESUME OF U. S. CIVIL AIR CARRIER AND GENERAL AVIATION AIRCRAFT ACCIDENTS, CALENDAR YEAR 1957. Washington, The Board, 1958. 51p.

U. S. Congress. Senate. Committe on Interstate and Foreign Commerce. FEDERAL AVIATION AGENCY ACT. HEARINGS . . . ON S. 3880. MAY 22-JUNE 18, 1958. Washington, U. S. Govt. Print. Off., 1958. 507p.

U. S. Laws, Statutes, Etc. AERONAUTICAL STATUTES AND RELATED MATERIALS. Washington, U. S. Govt. Print. Off., 1958. 394p. $1.00.

Wheatcroft, Stephen. AIRLINE COMPETITION IN CANADA. A STUDY OF THE DESIRABILITY AND ECONOMIC CONSEQUENCES OF COMPETITION IN CANADIAN TRANSCONTINENTAL SERVICES. Ottawa, Air Transport Board, 1958. 79p.

Zweng, Charles A. and Allan C. Zweng. AIRLINE TRANSPORT PILOT RATING. 9th ed. North Hollywood, Calif., Pan American Navigation Service, 1958. 368p. $5.50.

PERIODICAL ARTICLES

Air Power for the Atom-Age Army, a Study, by Robert R. Rodwell. Aeronautics, June 1958; 38: 14-37.
"Air Transport for the Army": p. 30-33.

Annual Freight Forwarding Issue. Air Transportation, June 1958; 32: 5-48.

Attempt to Determine Sovereignty in Upper Space, by C. R. Hingorani. University of Kansas City Law Review, Dec. 1957; 26: 5.

Can We Stop Collisions in the Air? U. S. News & World Report, July 18, 1958; 45: 40-46.
Based on interview with President's Adviser on Aviation, Lieut. Gen. Elwood R. Quesada.

The Case Against National Sovereignty in Space, by Sir William Hildred and Sir Frederick Tymms. Aeroplane, May 23, 1958; 94: 712-714.

Civil Aviation in 1957. ICAO Bulletin, May 1958; 13: 31-41, 44-46.
From the Annual Report of the Council to the Assembly.

Commercial Airlines and the Unwanted Passenger, by John H. Mudel. Insurance Law Journal, Apr. 1958; 25: 153-158.

Critical Remarks on Recent Discussions Concerning Legal Problems of Outer Space, by Alex Meyer. Zeitschrift für Luftrecht, No. 2, 1958; 7: 194-207.
In English and German.

First Annual Directory of Transport Aircraft. American Aviation, June 30, 1958; 22: 19-54.

Flight-Space and the Satellite, by John C. Cooper. Federal Bar Journal, Oct./Dec. 1957; 17: 460-470.
Translated and published also in *Revue française de droit aérien,* v. 12, Jan./Feb. 1958, p. 18-29, and in *Zeitschrift für Luftrecht,* v. 7, No. 2, 1958, p. 175-184.

International Air Freight Has Unlimited Potential. Air Cargo, July 1958; 2: 17-18.

International Airlines; the Great Jet Gamble. Fortune, June 1958; 57: 120-124, 226-230.

International Law and the Outer Space, by Pitman B. Potter. American Journal of International Law, Apr. 1958; 52: 304-306.

Italian Civil Aviation, by Joe Le Tourneau. Airlanes, June 1958; 23: 4-5.

The Law of Space; for a New Age, New Laws Are Already Being Established, by Eric Weinmann and Hugh C. MacDougall. Foreign Service Journal, Apr. 1958; 35: 22-26.

The Lebanon Spreads Its Wings. The Story of Middle East Airlines, by John Stroud. Esso Air World, Mar./Apr. 1958; 10: 114-118.

Legal Status of the Airspace in the Light of Progress in Aviation and Astronautics, by C. S. Margo. South African Law Journal, Feb. 1958; 75: 106-108.

Missiles and Satellites; the Law and Our National Policy, by John Cobb Cooper. American Bar Association Journal, Apr. 1958; 44: 317-321.

New Lufthansa—the First Three Years, by Gerhard Holtje. Interavia; Review of World Aviation, June 1958; 13: 578.

Ninth Annual Local Air Service Issue. Flight, June 1958; 47: 48-117.

Ohio's Back Yard Air Line, by N. Wical. American Mercury, July 1958; 87: 65-68.

Origins of the Modern Airliner. Flight, Apr. 11, 25, May 9, 23, 1958; 73: 490-493, 579-581, 632, 712-714.

Planning and Control in Air Transport, by H. J. Heinrich. Aeroplane, May 30-June 6, 1958; 94: 756-757, 789-790.

Preplanning for the Jet Transport, by W. Howard Hill. Flying, July 1958; 63: 30-31, 82.

Red Stars in Our Skies; Reciprocal Air Service Between U. S. and Russia? By G. Carroll. American Mercury, July 1958; 87: 17-21.

Restricting Liberty of Airplane Traveller. Law Quarterly Review, Apr. 1958; 74: 166-168.
Case note on Kuchenmeister v. Home Office 1958 2 W. L. R. 458.

Russia's New Look at Civil Aviation. Flying, May 1958; 62: 26-28, 63.

Sonic Boom; a New Legal Problem, by Allen J. Roth. American Bar Association Journal, Mar. 1958; 44: 216-220, 276.

Soviet Air Transport, by Garrett Underhill. Ordnance, Jan./Feb. 1958; 624-628.

Special Air Cargo Issue. Air and Truck Traffic, Apr. 1958; 15: 7-30.

Swissair Looks Ahead, by Roy Allen. Aeronautics, June 1958; 38: 78-85.

25 Years of Air Transport; Assessment for the Future, by William P. Hildreth. Interavia; Review of World Aviation, June 1958; 13: 527-533.

Torts—Liability of Air Carriers for Injuries to Passengers Caused by Turbulence During Flight, by Melvin E. Carnahan. Missouri Law Review, Jan. 1958; 23: 100-102.
Case note on Cudny v. Braniff Airways, Inc., 300 S. W. 412 (Mo. 1957).

What Price Payloads? By Glen B. Eastburn. Esso Air World, Mar./Apr. 1958; 10: 119-123.

Why Airlines Are Hard to Please, by B. S. Shenstone. Journal of the Royal Aeronautical Society, May 1958; 62: 319-336.
Thirteenth British Commonwealth Lecture delivered March 27 at the Institution of Civil Engineers, London.

FOREIGN ARTICLES

El Derecho aeronáutico y el derecho astronàutico, por F. Loustan Ferran. Aerovoz, May 1958; 13: 20-26, 41.

Einige Zweifelsfragen bei der Haftung des Luftfrachtführers für Handgepäck gemäss Warschauer Abkommen und deutschen Recht, von Hubert Wessells. Zeitschrift für Luftrecht, No. 2, 1958; 7: 209-216.

La Jurisprudence des Etats-Unis sur l'application de la Convention de Varsovie, par Marcel Le Guff. Revue générale de l'air, No. 4, 1957; 20: 352-362.

Massnahmen zur Erleichterung der Luftfahrt. von Joachim Hübener. Zeitschrift für Luftrecht, No. 2, 1958; 7: 185-188.

Das Neue österreichische Luftfahrtgesetz, von Otto Jettmar. Zeitschrift für Luftrecht, No. 2, 1958; 7: 189-193.

Le Problème de la classification des aérodromes, par Michel Guinchard. Revue française de droit aérien, Jan./Feb. 1958; 12: 1-17.

Raumfahrt—einige politische Aspekte, von Eugen Sänger. Weltraumfahrt, Mar. 1958; 9: 12-22.

La Réglementation internationale de vols dans l'espace supra-atmosphérique, par M. Smirnoff. Revue générale de l'air, No. 4, 1957; 20: 347-351.

Il Transporto con elicotteri in Belgio. Rivista aeronautica, May 1958; 33: 767-772.